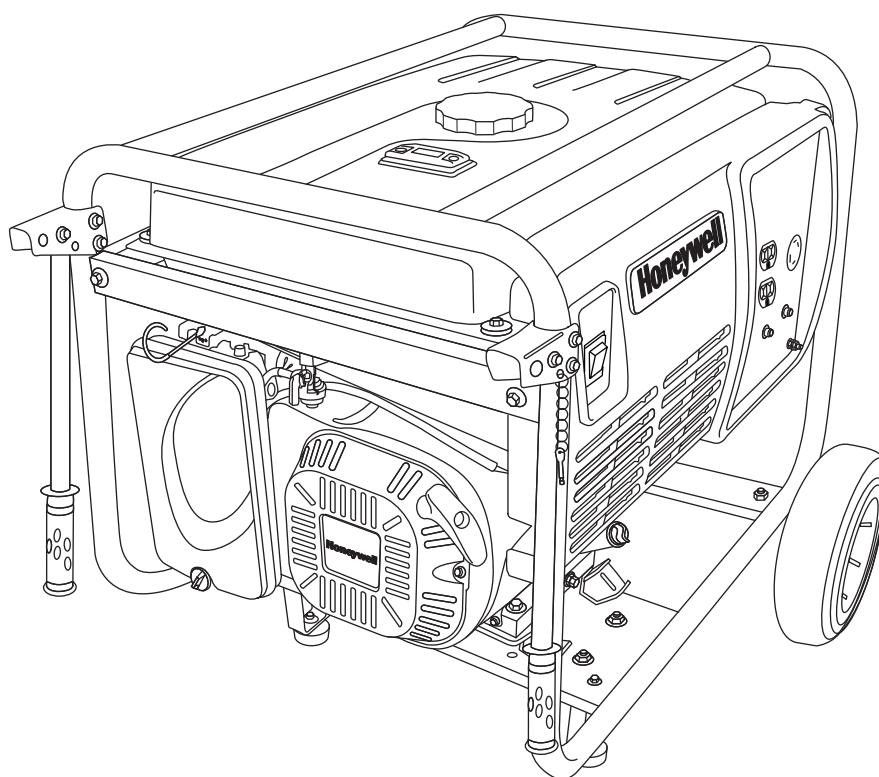


Portable Electrical Generator Service Manual



HW3000/L
HW4000/L
HW5500/L
HW5500E/L
HW6200/L
HW7000E/L
HW7500E/L

Read and Save These Instructions

For technical support and parts, contact your Regional Master Parts Distributor toll-free at 1-877-HWTECHS (498-3247) or visit www.honeywellgenerators.com.

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SAVE THESE INSTRUCTIONS

1: IMPORTANT SAFETY INSTRUCTIONS

 WARNING	
	ANYONE using or servicing this generator must read, understand, and follow all safety and operation instructions provided in the product manual. Failure to closely follow these instructions can result in circumstances leading to death, serious injury, and property damage.





NOTE:

Since there are many variations in the circumstances surrounding the installation, operation, service, and maintenance of this generator, we cannot possibly anticipate or provide advice or safety messages to cover every situation.

1.1 SAFETY MESSAGES







Signal Words


Safety messages are provided throughout this manual to help prevent personal injury and equipment damage. All safety messages are introduced by a signal word indicating the hazard level.

	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury to the operator or to bystanders.
	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator or to bystanders.
	Indicates a potentially hazardous situation which, if not avoided, may result in moderate or minor injury to the operator or to bystanders.
	Indicates a situation which, if not avoided, may result in damage to the generator components.

Hazard Symbols and Meanings

In addition to the signal words, the following symbols may be used to draw your attention to specific types of hazards.

 <i>Explosion</i>	 <i>Toxic fumes</i>	 <i>Fire</i>
 <i>Chemical burn</i>	 <i>Electrical shock</i>	 <i>Hot surface</i>

 DANGER	
Using a generator indoors CAN KILL YOU IN MINUTES . Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.	
 NEVER use inside a home or garage, EVEN IF doors and windows are open.	 Only use OUTSIDE and far away from windows, doors, and vents.

SAFETY PRECAUTIONS

- Wear appropriate protective safety equipment, such as safety shoes and safety glasses.
- Comply with the warnings in this manual and take special precautions when working around electrical equipment.
- NEVER wear loose or damp clothing that might get caught in equipment or conduct electricity.
- Keep service area organized and free of unnecessary clutter to reduce hazard potential.
- Keep guards and shields in place on machinery and maintain equipment in good working condition.
- Store flammable liquids in approved containers and away from fire, flame, spark, pilot light, switches, arc-producing equipment and other ignition sources.
- Use the correct tool for the job and check its condition before starting.
- Keep fire extinguishers and safety equipment nearby.

SAFETY MESSAGES

Electric Shock Hazards

WARNING



Generators produce powerful voltage that can cause death or great physical harm.

- Notify the utility company when using generator for backup power. Use approved transfer equipment to isolate generator from electric utility.
- NEVER connect to a building's electrical system unless a transfer switch has been installed by a qualified electrician.
- NEVER touch bare wires or receptacles.
- NEVER use generator with electrical cords that are worn, frayed, bare, or otherwise damaged.
- NEVER operate generator in rain or snow, or when the generator is set on wet surface.
- Generator repairs should only be performed by a trained service technician.
- Keep the generator out of reach of children, pets, and untrained people.
- Exposed terminals, even on disconnected batteries, can cause electric shock.
- NEVER touch both battery terminals with bare hands at the same time.
- Remove rings, watches or any other object containing metal when working with battery. If metal comes into contact with battery terminals, electric shock and serious burns can result.
- Only use insulated/non-conducting tools when working with or near battery.
- NEVER lay tools or other metal objects on top of battery.

Fire and Burn Hazards

WARNING



Fuel and its vapors are extremely flammable and explosive under certain conditions.



- Refuel generator only outdoors, in a well-ventilated area.
- NEVER enclose the generator in any structure.
- Keep generator at least 6 feet (2 meters) away from buildings, other equipment, and combustible materials during operation.
- NEVER fill fuel tank while the engine is running. Turn generator OFF and allow to cool before filling with fuel.
- NEVER smoke or allow flames or sparks near the generator or where gasoline is stored.
- NEVER overfill the fuel tank (there should be no fuel in the filler neck). After refueling, tighten the fuel cap securely.
- Be careful not to spill fuel when refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, the area must be dry before starting the engine.
- Avoid repeated or prolonged contact with skin or breathing of vapor.

WARNING



The muffler becomes very hot during operation and remains hot for a while after stopping the engine.

- NEVER touch hot surfaces and avoid hot gases.
- Let engine cool before storing the generator indoors.

WARNING



Battery gases are explosive.

- NEVER allow open flames, lit cigarettes, sparks, or spark-producing equipment near the battery.



Battery electrolyte fluid is comprised of sulfuric acid, which can be very dangerous and cause severe burns.

- NEVER allow battery fluid to contact eyes, skin, or clothing. If contact or spillage occurs, immediately flush the area with water.

Medical and Life Support Uses

WARNING

- In case of emergency, call 911 immediately.
- NEVER use this product to power life support devices or life support appliances.
- NEVER use this product to power medical devices or medical appliances.
- Inform your electricity provider immediately if you or anyone in your household depends on electrical equipment to live.
- Inform your electrical provider immediately if a loss of power would cause you or anyone in your household to experience a medical emergency.

Generator Damage Hazards

NOTICE

Improper treatment or misuse of generator can cause permanent damage.

- Damage to generator caused by misuse or modification is not covered under warranty.

California Proposition 65

WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

2: WARRANTIES

NORTHSHORE POWER SYSTEMS CONSUMER LIMITED WARRANTY

Honeywell Portable Generator

LIMITED WARRANTY

Northshore Power Systems, LLC, will repair or replace, free of charge, to the original retail customer, in North America, any parts of the portable generator found by Northshore Power Systems or an authorized service center to be defective in material or workmanship. This limited warranty covers the cost of the replacement parts and labor for defects. Transportation charges are the responsibility of the customer. This limited warranty has time period conditions, operating conditions and disclaimers, limitations of remedies & exclusions as stated below. For warranty service, customer should locate an authorized Honeywell Generator Dealer from www.honeywellgenerators.com or by calling 1-888-HWHELP1 (494-3571).

LIMITED WARRANTY PERIODS

Consumer Use: 3 Years Limited. 1st year, parts and labor. 2nd & 3rd years, parts only.

Commercial Use: 1 Year Limited. No warranty for rental use.

Commencement and Definitions. The limited warranty period begins on the date of retail purchase by the original purchaser. The limited warranty is not transferable. "Consumer use" is personal use by a retail customer. "Commercial use" is any usage for income producing, business related use.

No Extension of Warranty. Repair or replacement pursuant to this limited warranty shall not renew or extend the original warranty period, and any repaired product shall be warranted for the remaining original warranty period only.

DISCLAIMERS, LIMITATIONS OF REMEDIES & EXCLUSIONS

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

MEDICAL AND LIFE SUPPORT USES. This warranty excludes any use of this product intended to power life support devices, life support appliances, medical devices, or medical appliances.

DISCLAIMER OF OTHER WARRANTIES. TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, THIS LIMITED WARRANTY IS EXCLUSIVE AND EXPRESSLY IN LIEU OF ANY AND ALL OTHER WARRANTIES, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER IMPLIED WARRANTIES THAT MAY ARISE FROM A COURSE OF DEALING OR USAGE OF TRADE. NORTHSHORE POWER SYSTEMS HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES. To the extent that Northshore Power Systems's products are consumer products under applicable federal or state law with respect to any customer, the duration of any implied warranties (including, but not limited to, implied warranties of merchantability or fitness for a particular purpose) are limited to the shortest duration permitted by applicable law or the limited warranty period provided herein, whichever is longer.

LIMITATIONS OF REMEDIES. NORTHSHORE POWER SYSTEMS SHALL NOT BE LIABLE TO CUSTOMER, OR TO ANYONE CLAIMING UNDER CUSTOMER, FOR ANY OTHER OBLIGATIONS OR LIABILITIES, INCLUDING, BUT NOT LIMITED TO, OBLIGATIONS OR LIABILITIES ARISING OUT OF BREACH OF CONTRACT OR WARRANTY, NEGLIGENCE OR OTHER TORT OR ANY THEORY OF STRICT LIABILITY, WITH RESPECT TO THE GENERATOR OR NORTHSHORE POWER SYSTEMS'S ACTS OR OMISSIONS OR OTHERWISE. TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, NORTHSHORE POWER SYSTEMS SHALL NOT, IN ANY EVENT, BE LIABLE FOR INCIDENTAL, COMPENSATORY, PUNITIVE, CONSEQUENTIAL, INDIRECT, SPECIAL OR OTHER DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF USE, LOSS OF INCOME, LOSS OF TIME, LOSS OF SALES, INJURY TO PERSONAL PROPERTY, OR LIABILITY CUSTOMER INCURS WITH RESPECT TO ANY OTHER PERSON, OR ANY OTHER TYPE OR FORM OF CONSEQUENTIAL DAMAGE OR ECONOMIC LOSS.

EXCLUSIONS. In addition to the foregoing disclaimers, limitations and terms, this limited warranty shall not apply to and does not cover accessories, nor does it cover products that are in any way subjected to: (i) improper setup, installation or storage; (ii) lack of proper maintenance and service; (iii) accident, damage, abuse or misuse; (iv) abnormal operating conditions or applications; (v) repair or modification by customer or any third party without prior written consent of Northshore Power Systems; (vi) use under operating conditions or in applications not made known to or contemplated by Northshore Power Systems; or (viii) acts of God. The application of these exclusions will be determined at Northshore Power Systems's sole discretion.

REGISTRATION

Warranty registration with the Company is required on all products. You may send in the enclosed Product Registration, or register your product on-line at www.honeywellgenerators.com.

Warranty is also available by keeping and showing your original receipt from date of purchase to an authorized Honeywell Generator Dealer.

GENERATOR SERVICE

Do not return your generator to place of purchase for service. For all customer service inquiries, call 1-888-HWHELP1 (494-3571) or visit www.honeywellgenerators.com.

Warranty inquiries can be addressed to:

Northshore Power Systems, LLC
Attention: Service and Warranty Dept.
4425 N. Port Washington Road
Suite 105
Milwaukee, WI 53212-1082

WARRANTIES

NORTHSHORE POWER SYSTEMS EMISSIONS CONTROL WARRANTY

Honeywell Portable Generator

WARRANTY STATEMENT

The U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB) require manufacturers of small off-road engines (SORE) to warranty their products with a 2-year warranty for those components that are specified as being part of the emission control system. Northshore Power Systems, LLC, CARB, and EPA offer the following explanation of the Emission Control Warranty.

In the United States and California, new small off-road engines must be designed, built, and equipped to meet stringent anti-smog standards. Northshore Power Systems must warrant the emission control system on your 2010 small off-road engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your small off-road engine. The emissions warranty is a defects warranty and is not related to an in-use emissions test.

Your emission control system may include parts such as the carburetor or fuel injection system, the ignition system, and the catalytic converter. Also included may be hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, Northshore Power Systems will repair your small off-road engine at no cost to you, including diagnosis, parts, and labor.

COVERAGE

Emissions control parts on the engine are warranted for a period of two years, subject to provisions set below. If any covered part on your engine is defective, the part will be repaired or replaced by Northshore Power Systems.

OWNER'S RESPONSIBILITIES

You are responsible to maintain the engine as defined in your Honeywell Generator Owner's Manual. Northshore Power Systems recommends that you retain all records/receipts covering maintenance on your engine, but Northshore Power Systems cannot deny warranty claims based on the lack of receipts or for your failure to perform all scheduled maintenance. You may be denied warranty coverage if a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible to bring your portable generator to an authorized Northshore Power Systems Honeywell generator dealer for repairs as soon as a problem exists. Do not return your generator to place of purchase for service. For emissions warranty service, contact your nearest dealer; a listing is available at www.honeywellgenerators.com or by calling 1-877-HWTECHS (498-3247).

EMISSIONS CONTROL SYSTEMS PARTS

Coverage under this warranty extends only to the emissions control parts listed below.

1. Fuel Metering System
 - A. Carburetor gaskets
 - B. Choke system
 - C. Clamps
 - D. Fuel filter (if equipped) and screen
 - E. Fuel line, control valve, and fittings
 - F. Fuel pump (if equipped)
 - G. Gasoline carburetor and internal components (if equipped)
2. Air Induction System
 - A. Air cleaner
 - B. Intake manifold
 - C. Vent lines
3. Ignition System
 - A. Ignition coil
 - B. Spark plug
4. Exhaust System
 - A. Catalytic converter (if equipped)
 - B. Exhaust manifold
 - C. Muffler gasket
5. Crankcase Breather Assembly
 - A. Breather connection tube
6. Air Injection System
 - A. Pulse valve
7. Fuel Tank Evaporative Emissions Control System
 - A. Carbon canister and mounting brackets
 - B. Fuel cap
 - C. Fuel tank
 - D. Purge valves
8. Miscellaneous Items used in above systems
 - A. Hoses, belts, connectors, valves, and assemblies
 - B. Switches

WARRANTY PROVISIONS

1. **Claims.** Warranty claims shall be filed in accordance with provisions of the Northshore Power Systems warranty and policies established with the authorized dealer network.
2. **Exclusions.** Warranty coverage shall be denied for failure of an emissions control part caused by abuse, neglect, improper maintenance as described in the Honeywell Generator Owner's Manual, use of add-on parts, modified parts, or parts that are not equivalent to original Honeywell generator parts in performance and durability.
3. **Length of Coverage.** Northshore Power Systems warrants to the original retail purchaser and each subsequent owner that the emissions control part shall be free from defects in materials and workmanship for a period of two years from the date the generator is delivered to the original retail customer.

4. **Repair or Replacement Cost.** Repair or Replacement Cost. Repair or replacement of any emissions control part will be performed at no charge to the owner, including diagnostic labor which leads to the determination that an emissions control part is defective, if the diagnostic work is performed at an authorized Northshore Power Systems Honeywell generator dealer.
5. **Consequential Coverage.** Coverage noted hereunder will extend to the failure of any engine components caused by the failure of any emissions control part still under warranty.
6. **Maintenance.** The emissions control parts are warranted only for defects during the warranty period. The warranty does not cover an emission control part that is replaced or repaired as required by the maintenance schedule defined in the Honeywell Generator Owner's Manual. Any replacement part that is equivalent in performance and durability may be used for maintenance or repairs.

QUESTIONS

If you have questions regarding your emissions warranty rights and responsibilities, you should contact the Service and Warranty Department at Northshore Power Systems.

By phone: 1-877-HWTECHS (498-3247)

By email: service@nspsystems.com

By US mail:

Northshore Power Systems, LLC
Attention: Service and Warranty Dept.
4425 N. Port Washington Road
Suite 105
Milwaukee, WI 53212-1082

WARRANTIES

NORTHSHORE POWER SYSTEMS REPLACEMENT PARTS LIMITED WARRANTY

Honeywell Portable Generator

For a period of 90 days from the date of sale or installation of a Northshore Power Systems, LLC supplied part, Northshore Power Systems will, at its option and sole discretion, repair or replace the part if it is found to be defective in material or workmanship after inspection by Northshore Power Systems.

Any parts which the buyer claims to be defective must be examined by the nearest Authorized Northshore Power Systems Warranty Service Facility. All shipping costs under this limited warranty are to be borne and prepaid by the buyer.

DISCLAIMERS, LIMITATIONS OF REMEDIES & EXCLUSIONS

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

DISCLAIMER OF OTHER WARRANTIES. TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, THIS LIMITED WARRANTY IS EXCLUSIVE AND EXPRESSLY IN LIEU OF ANY AND ALL OTHER WARRANTIES, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER IMPLIED WARRANTIES THAT MAY ARISE FROM A COURSE OF DEALING OR USAGE OF TRADE. NORTHSHORE POWER SYSTEMS HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES.

To the extent that Northshore Power Systems's products are consumer products under applicable federal or state law with respect to any customer, the duration of any implied warranties (including, but not limited to, implied warranties of merchantability or fitness for a particular purpose) are limited to the shortest duration permitted by applicable law or the limited warranty period provided herein, whichever is longer.

LIMITATIONS OF REMEDIES. NORTHSHORE POWER SYSTEMS SHALL NOT BE LIABLE TO CUSTOMER, OR TO ANYONE CLAIMING UNDER CUSTOMER, FOR ANY OTHER OBLIGATIONS OR LIABILITIES, INCLUDING, BUT NOT LIMITED TO, OBLIGATIONS OR LIABILITIES ARISING OUT OF BREACH OF CONTRACT OR WARRANTY, NEGLIGENCE OR OTHER TORT OR ANY THEORY OF STRICT LIABILITY, WITH RESPECT TO THE GENERATOR OR NORTHSHORE POWER SYSTEMS'S ACTS OR OMISSIONS OR OTHERWISE. TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, NORTHSHORE POWER SYSTEMS SHALL NOT, IN ANY EVENT, BE LIABLE FOR INCIDENTAL, COMPENSATORY, PUNITIVE, CONSEQUENTIAL, INDIRECT, SPECIAL OR OTHER DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF USE, LOSS OF INCOME, LOSS OF TIME, LOSS OF SALES, INJURY TO PERSONAL PROPERTY, OR LIABILITY CUSTOMER INCURS WITH RESPECT TO ANY OTHER PERSON, OR ANY OTHER TYPE OR FORM OF CONSEQUENTIAL DAMAGE OR ECONOMIC LOSS.

EXCLUSIONS. In addition to the foregoing disclaimers, limitations and terms, this limited warranty shall not apply to and does not cover products that are in any way subjected to: (i) improper setup, installation or storage; (ii) lack of proper maintenance and service; (iii) accident, damage, abuse or misuse; (iv) abnormal operating conditions or applications; (v) repair or modification by customer or any third party without prior written consent of Northshore Power Systems; (vi) use under operating conditions or in applications not made known to or contemplated by Northshore Power Systems; or (vii) acts of God. The application of these exclusions will be determined at Northshore Power Systems's sole discretion.

NORTHSHORE POWER SYSTEMS PARTS LIMITED WARRANTY CLAIMS PROCEDURES

DEFECTIVE NEW PARTS. Parts which are defective from new stock, or immediately upon installation must be filed under limited warranty. The defective part must be returned to Northshore Power Systems's Service and Warranty Department under the following procedure:

1. Fill out a Warranty Claim Form listing the part number and write "New Defective" in the description.
2. List invoice number that the part was purchased on and/or provide receipt.

NOTE: Freight damaged parts are not valid as warranty claims.

FAILURE WITHIN 90 DAYS. Parts which have been installed and have failed within 90 days will be handled by the Northshore Power Systems Service and Warranty Department. A Warranty Claim Form must accompany each part for which coverage under the limited warranty is sought. Claims will not be processed without the model and serial numbers of the unit and the purchase and failure dates for the part. Attach a copy of the original proof-of-purchase (for the part) to the Warranty Claim Form.

WARRANTY CLAIMS

For all customer service inquiries, call 1-877-HWTECHS (498-3247) or visit www.honeywellgenerators.com.

Warranty claim forms and inquiries can be addressed to:

Northshore Power Systems, LLC
Attention: Service and Warranty Dept.
4425 N. Port Washington Road
Suite 105
Milwaukee, WI 53212-1082

3: SPECIFICATIONS AND WIRING DIAGRAMS

3.1 SPECIFICATIONS

GENERATOR	HW3000 HW3000L	HW4000 HW4000L	HW5500 HW5500E HW5500EL HW5500L	HW6200 HW6200L	HW7000E HW7000EL	HW7500E HW7500EL
POWER						
Rated [watts] (+/-10% under load)	3000	4000	5500	6200	7000	7500
Maximum [watts] (+/-10% under load)	3750	5000	6875	7750	8750	9375
Frequency [hertz] (+/-5% under load)	60					
Voltage [volts] (+/-5% under load)	120	120 / 240	120 / 240	120 / 240	120 / 240	120 / 240
OPERATING TEMPERATURE						
Maximum [F / C]	104° / 40°					
Minimum [F / C]	14° / -10°					
ENGINE						
Speed [rpm]	3600					
Type	OHV 4-cycle					
Displacement [cc]	196	242	337	389	420	420
Valve Lash [in /mm]	IN: 0.005±0.001 / 0.125±0.025 EX: 0.007±0.001 / 0.175±0.025					
Fuel	87 or higher unleaded					
Fuel Tank Capacity [gal / L] (Non-L Models)	4.2 / 16	6.5 / 24.6	6.5 / 24.6	6.5 / 24.6	6.6 / 25	6.5 / 24.6
(Model Numbers Ending in "L")	3.2 / 12	6.5 / 24.6	6.5 / 24.6	6.5 / 24.6	6.1 / 23	6.5 / 24.6
Engine Oil	SAE 10W-30*					
Engine Oil Capacity [qt / L]	0.6 / 0.6	1.2 / 1.1	1.2 / 1.1	1.2 / 1.1	1.2 / 1.1	1.2 / 1.1
Spark Plug	102557A†	100842A†	100842A†	100842A†	100842A†	100842A†
Spark Plug Gap [in /mm]	0.028-0.031 / 0.7-0.8					
Air Filter (Non-L Models)	102555A	100833A	100833A	100833A	100833A	100833A
(Model Numbers Ending in "L")	102556A	101865A	101865A	101865A	101865A	101865A
Battery (Electric Start Models Only)	--	--	101536A	--	101536A	101536A

TABLE 3-1: Honeywell Portable Generator Specifications

* See ENGINE OIL RECOMMENDATIONS, page 7-3 for other engine oil types outside general temperature use.

† See SPARK PLUG SERVICE, page 7-5 for other recommended spark plug replacements.

BOLT AND FASTENER TORQUE INFORMATION

3.2 BOLT AND FASTENER TORQUE INFORMATION

Component-Specific Fastener	Fastener Size	Torque Values	
		N•m	lb. ft.
Alternator End Cover Bolts	M5 x 0.75 x 12	4	3
Alternator Housing Bolts	M10 x 1.25 x 80	48	35
Axle Bracket Bolts	M8 x 1.0 x 16	25	18
Brush Assembly Bolt	M5 x 0.75 x 16	2	2
Carbon Canister Bracket Bolts	M6 x 1.0 x 10	2	2
Connecting Rod Bolts	M8 x 1.25	15	11
Control Panel Bolts	M6 x 1.0 x 15	4	3
Cooling Fan Flange Nut	M18 x 1.5	105	77
Crankcase Cover Bolts	M8 x 1.25 x 40	28	21
Cylinder Head Bolts	M10 x 1.25 x 80	48	35
Exhaust Pipe Bolts	M8 x 32	18	13
Fuel Shut-off Valve Hex Fitting	M10 x 1.25	24	17
Fuel Tank Mounting Bolts	M6 x 1.0 x 25	10	7
Ignition Coil Bolts	M6 x 1.0 x 25	10	7
Muffler Cover Bolts	M6 x 1.0 x 14	4	3
Muffler Rear Mounting Bracket Bolts	M8 x 1.0 x 16	18	13
Muffler Side Guard Bolts	M6 x 1.0 x 14	4	3
Oil Drain Screw	M12 x 1.5	32	24
Pivot Adjusting Nuts	M6 x 0.75	12	9
Pivot Bolts	M8 x 1.25	30	22
Rotor Bolt	--	48	35
Spark Arrestor Clamp Screw	M4 x 0.75 x 16	1	1
Spark Arrestor Screw	M3.5 x 0.75 x 10	1	1
Spark Plug	13/16"	28	21
Starter Solenoid Terminal Nut	M6 x 1.0	6	4
Support Leg to Frame Bolts	M8 x 1.0 x 16	25	18
Support Leg to Rubber Stopper Bolts	M8 x 1.0 x 25	25	18
Wheel Handle Pivot Bracket Bolts	M6 x 1.0 x 40	10	7

TABLE 3-3: Torque Values

3.3 WIRING DIAGRAMS

HW3000 & HW3000L

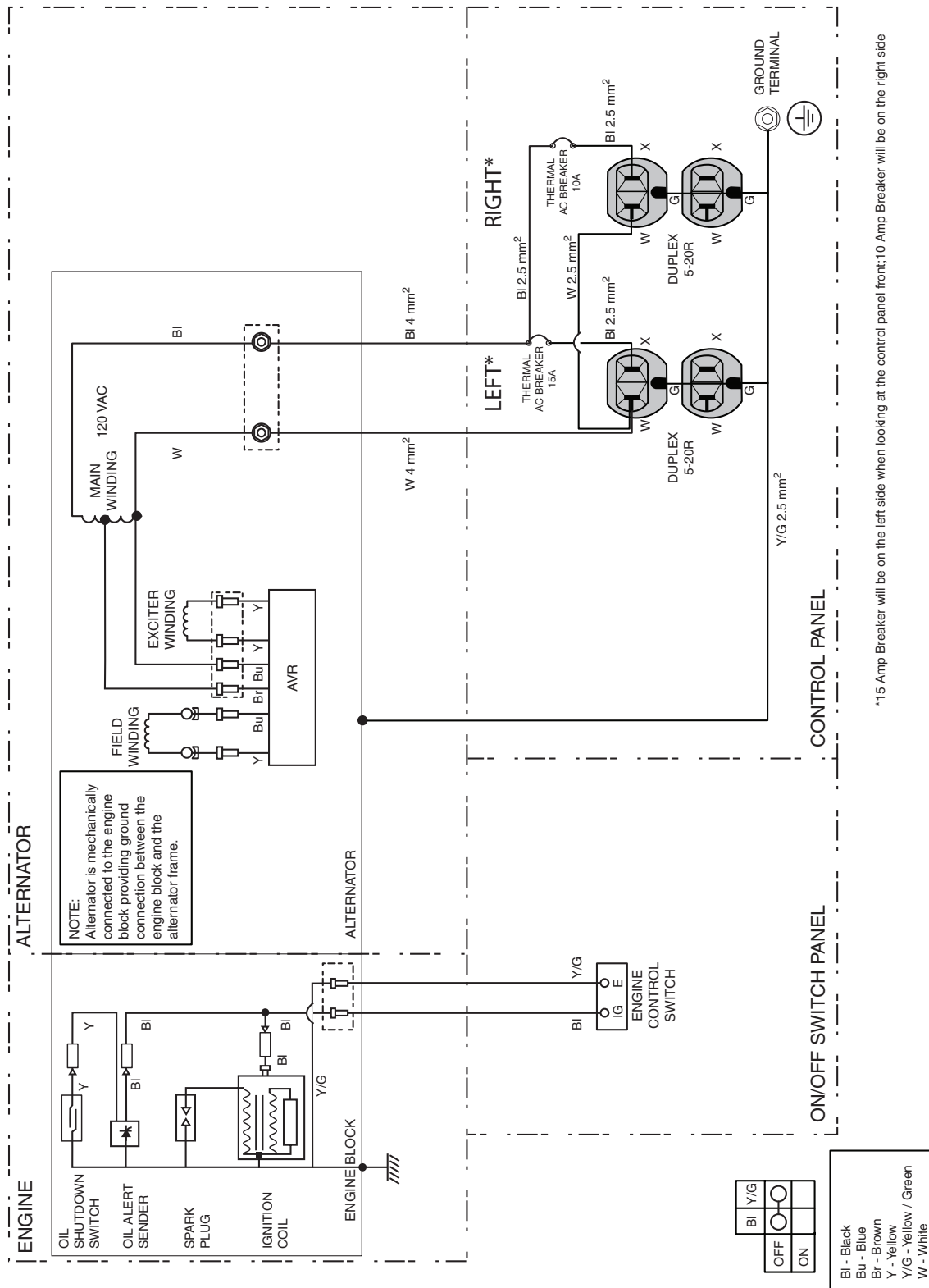


FIGURE 3-1: HW3000 & HW3000L Wiring Diagram

HW5500 & HW5500L

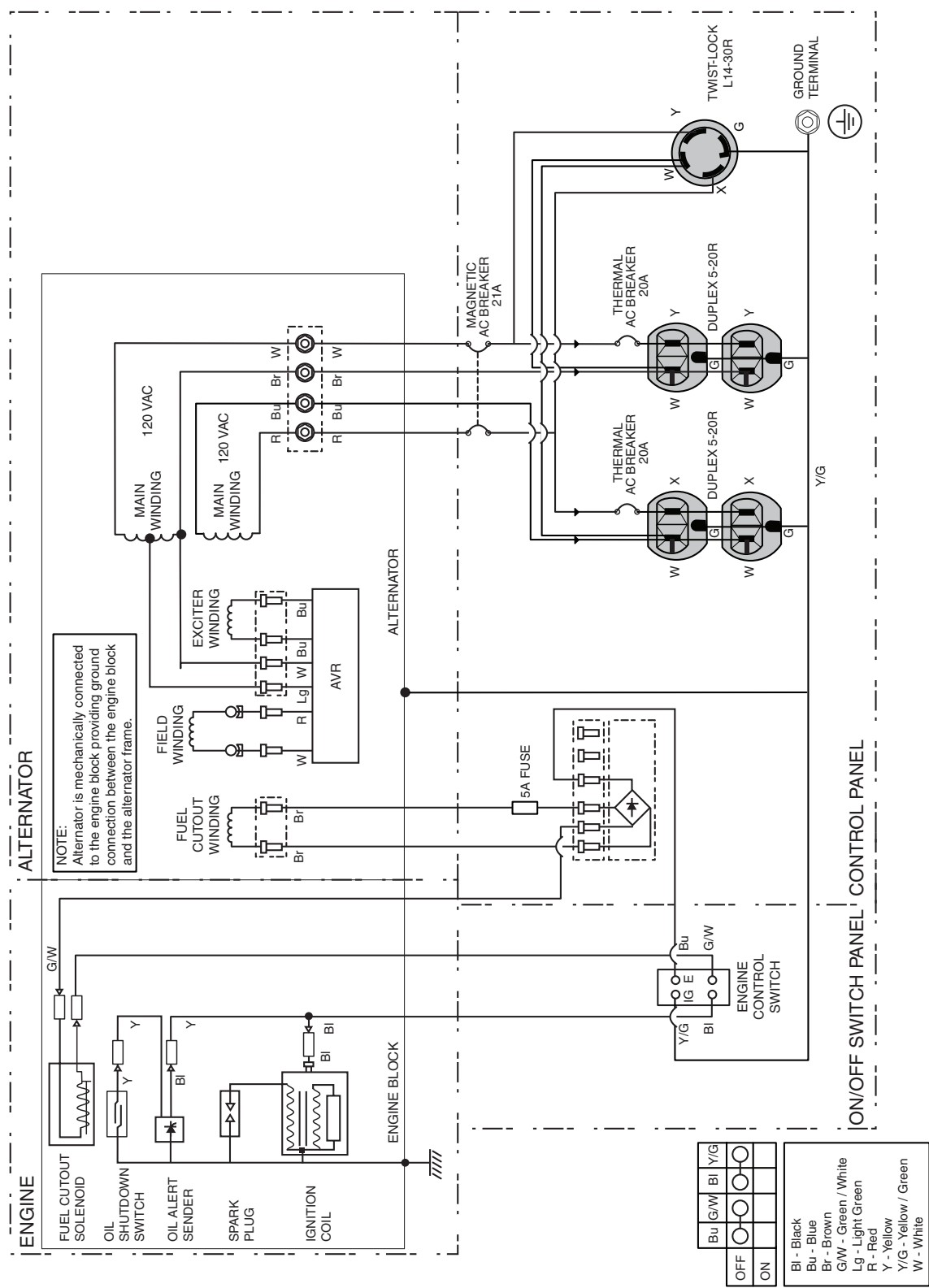


FIGURE 3-3: HW5500 & HW5500L Wiring Diagram

WIRING DIAGRAMS

HW5500E & HW5500EL

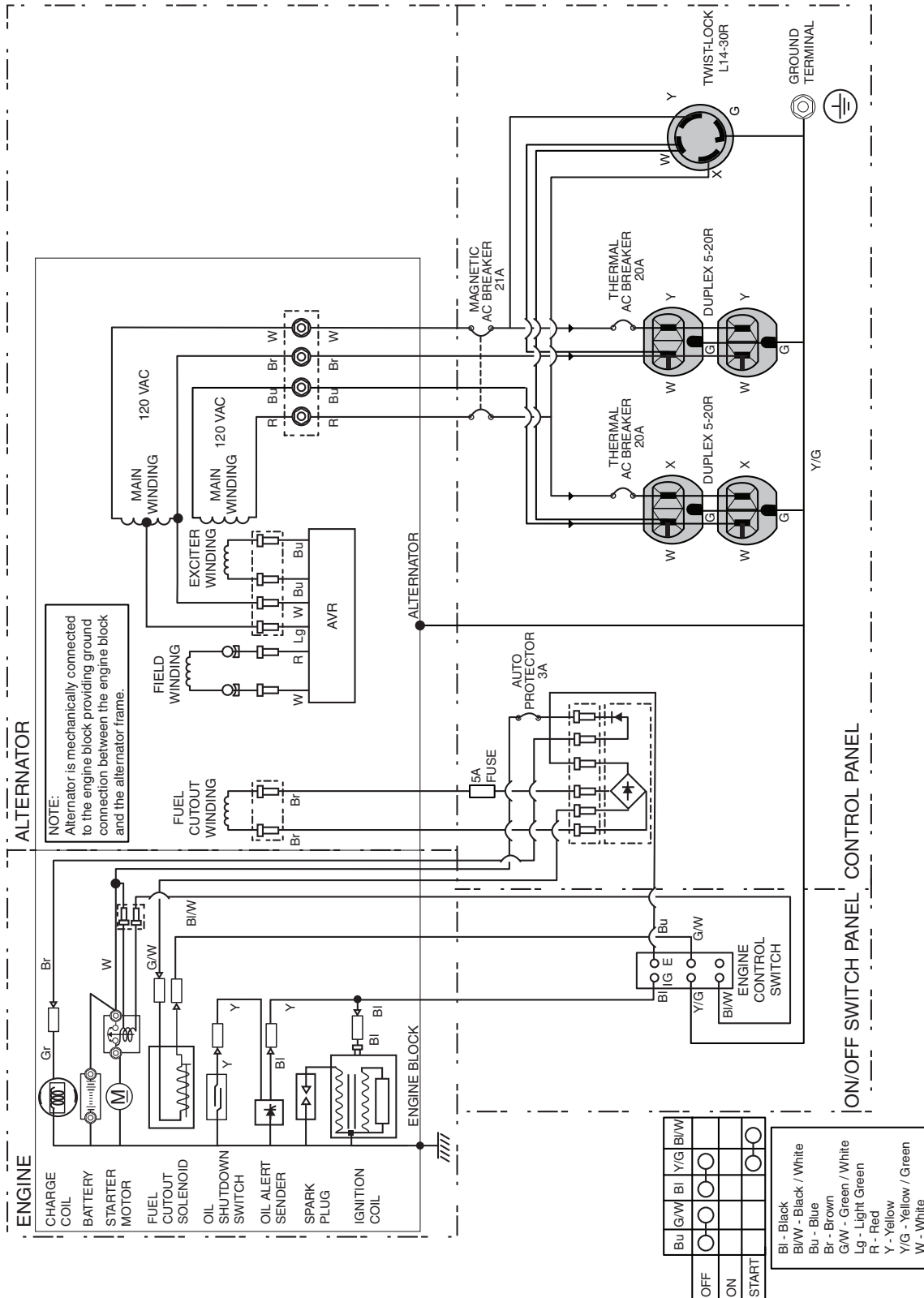


FIGURE 3-4: HW5500E & HW5500EL Wiring Diagram

HW6200 & HW6200L

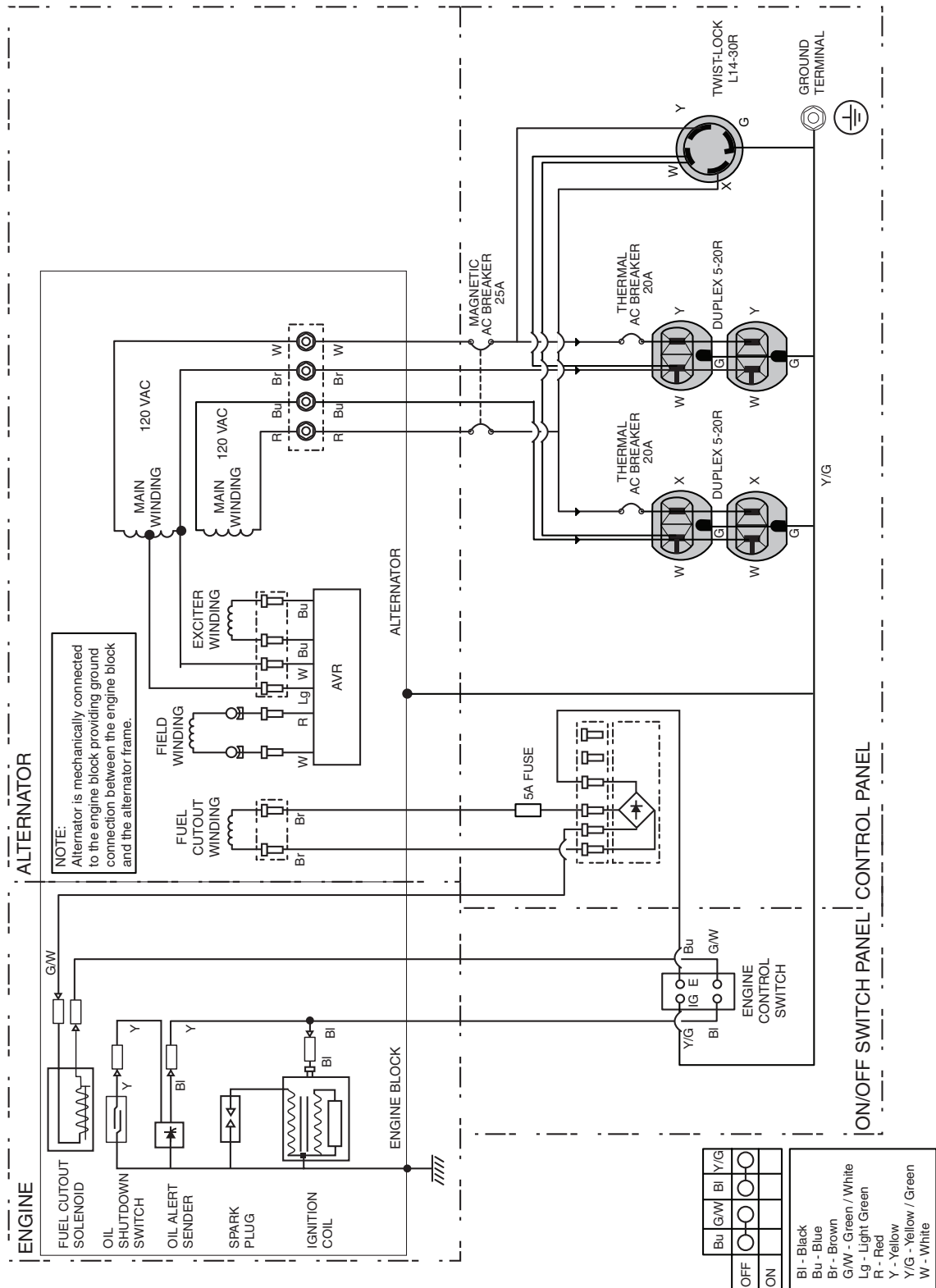


FIGURE 3-5: HW6200 & HW6200L Wiring Diagram

WIRING DIAGRAMS

HW7000E, HW7000EL, HW7500E, & HW7500EL

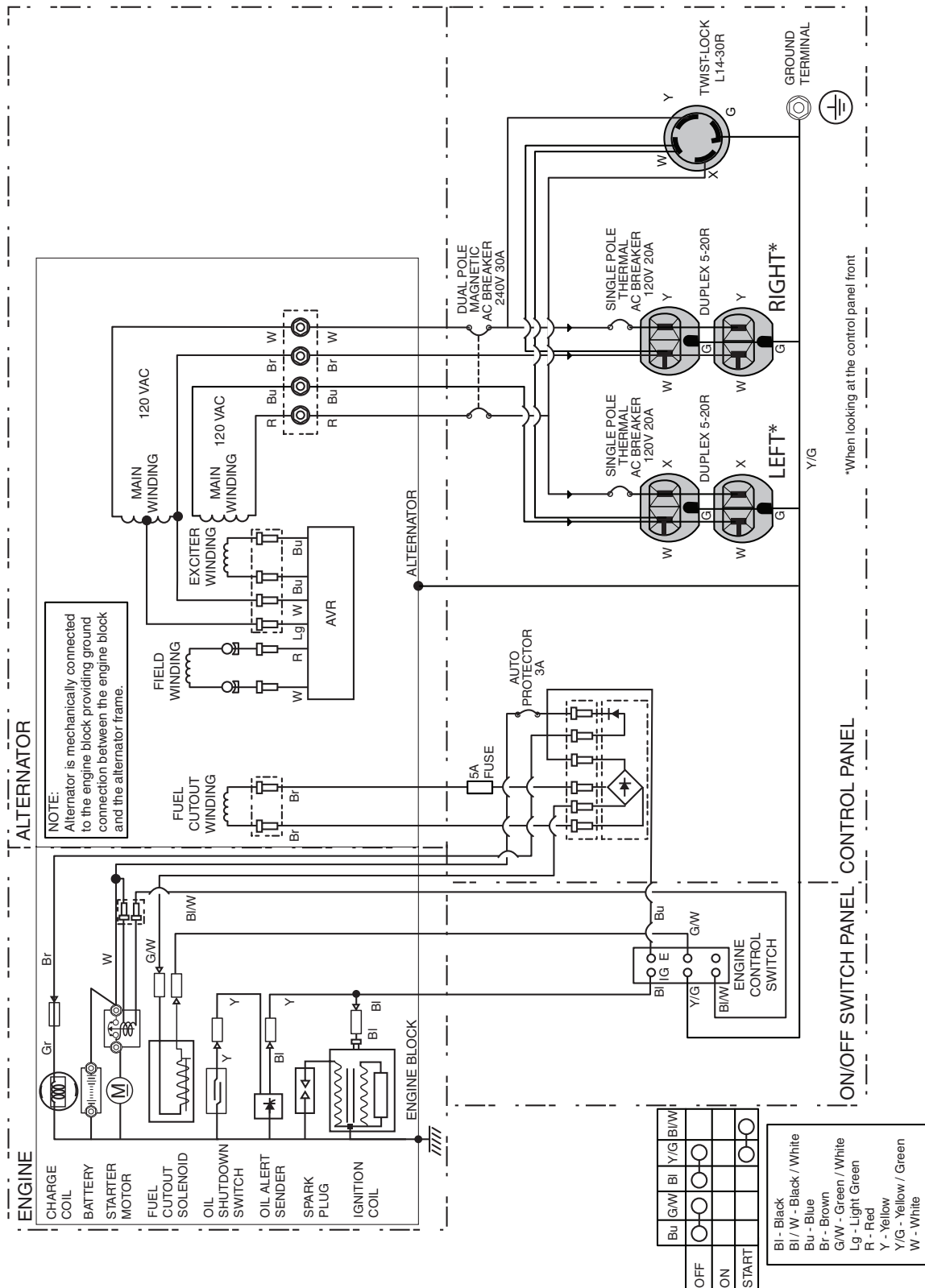


FIGURE 3-6: HW7000E, HW7000EL, HW7500E & HW7500EL Wiring Diagram

4: COMPONENTS

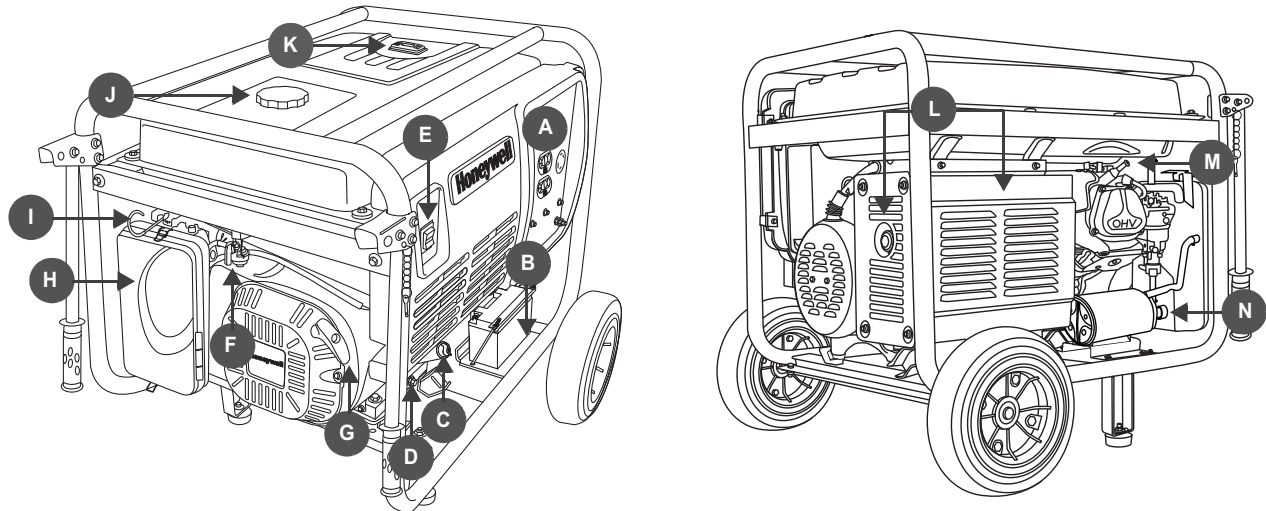


FIGURE 4-1: Honeywell Portable Electrical Generator Controls and Components (HW5500EL Model Illustrated)

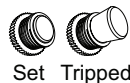
A—Power Control Center

Electrical Outlets

- 125VAC 20 Amp Duplex (NEMA 5-20R) outlets to connect 120V appliances to generator for power.
- 125/250VAC 30 Amp Twist-Lock (NEMA L14-30R) outlet (on select models) can be used to power appliances using appropriate (NEMA L14-30P) power cord (with select models) or connect a transfer switch (**not included**) to a building's main electrical system for backup power.

Breakers

Protects circuits from damage caused by overload or short-circuit by stopping the flow of electricity from the generator to the appliance. Master circuit breaker controls power to all outlets. If there is no power at outlets, see TROUBLESHOOTING, page 8-1.



HW3000 / HW3000L models only:

- 15-amp circuit breaker (left outlet)
- 10-amp circuit breaker (right outlet)

Ground Terminal

Connects generator to ground wire for grounding protection.

⚠ CAUTION



Generator must be grounded to prevent electrical shock from faulty appliances.

B—Battery Tray and Battery (Electric start models only)

Provides power for electric start feature.

C—Oil Fill Dipstick

Seals off engine oil fill hole and provides indicator for engine oil level.

D—Oil Drain Screw

Allows engine oil to drain from generator.

E—Engine Control Switch

Control used to start and stop the engine ignition system.

- **START**—Starts generator engine (electric start models)
- **RUN**—Prepares engine to start (manual start models); Indicates engine is currently running (electric start models)
- **STOP**—Stops generator engine by inhibiting ignition

F—Fuel Shut-off Valve

Controls flow of fuel from fuel tank to carburetor.

G—Recoil Starter Handle

Provides means to manually start engine, if needed.

H—Air Cleaner Assembly

Removes dust from engine intake air.

I—Choke Control

Controls choke valve. Choke control must be moved to ON position when starting a cold engine.

J—Fuel Cap

Provides a secure seal on fuel tank.

K—Fuel Gage

Indicates level of fuel currently in fuel tank.

L—Muffler Equipped with Spark Arrestor

Provides outlet for engine exhaust. Prevents sparks and other combustible materials from escaping generator.

⚠ WARNING



Muffler reaches temperatures that can cause serious burns if touched. NEVER touch hot surfaces.

M—Spark Plug Cap (Wire)

Delivers voltage to spark plug. When spark plug needs service, cap must be removed.

N—Carbon Canister (Model numbers ending in “L” only)

Reduces hydrocarbon emissions.

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5: PREPARING FOR SERVICE

WARNING

ANYONE using or servicing this generator must read, understand, and follow all safety and operation instructions provided in this manual. Failure to closely follow these instructions can result in circumstances leading to death, serious injury, and property damage.

5.1 REQUIRED TOOLS

A complete set of standard and metric shop tools are required to service the generator. Also needed are:

- Hammer
- Torque wrench
- Volt-ohm meter
- Frequency meter
- Resistive load - such as a load bank, heaters, light bulbs, etc.
- Alternator removal tool
- Wood block (for rotor support)

5.2 TRANSPORTING GENERATOR

WARNING



Hot engine or exhaust system can cause serious burns or fires. Cool generator completely before transporting.

When moving or transporting the generator:

- Press the engine control switch to the STOP position.
- Turn the fuel shut-off valve to the OFF position.
- Keep the generator level to prevent fuel spillage.
- Place pins in the handle and handle bracket before moving the generator.

NOTICE

NEVER drop, strike, or place heavy objects on generator when transporting.

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6: SERVICE REPAIR TIME ANALYSIS & FLAT RATE SCHEDULE

Operation	HW3000 HW3000L (min.)	HW4000 HW4000L (min.)	HW5500 HW5500L (min.)	HW5500E HW5500EL (min.)	HW6200 HW6200L (min.)	HW7000E HW7000EL (min.)	HW7500E HW7500EL (min.)
ELECTRICAL							
Alternator Complete	120	120	120	120	120	120	120
Battery	--	--	--	30	--	30	30
Brush Assembly	45	45	45	45	45	45	45
Charging Coil Assembly	45	45	45	45	45	45	45
Control Panel Assembly	60	60	60	60	60	60	60
Ignition Coil	50	50	50	50	50	50	50
Meters / Circuit Breakers	45	45	45	45	45	45	45
Oil Shutdown Switch	40	40	40	40	40	40	40
Oil Alert Sender	40	40	40	40	40	40	40
Receptacles / Ports	50	50	50	50	50	50	50
Recoil Starter Assembly	30	30	30	30	30	30	30
Spark Plug	30	30	30	30	30	30	30
Electric Starter	--	--	--	45	--	45	45
Starter Solenoid	--	--	--	35	--	35	35
Voltage Regulator	30	30	30	30	30	30	30
ENGINE							
Air Filter	30	30	30	30	30	30	30
Air Cleaner	40	40	40	40	40	40	40
Carburetor	50	50	50	50	50	50	50
Choke	45	45	45	45	45	45	45
Converter (Model Numbers Ending in "L")	60	60	60	60	60	60	60
Cylinder Head Cover	45	45	45	45	45	45	45
Cylinder Head Gasket	40	40	40	40	40	40	40
Engine Complete	180	180	180	180	210	210	210
Governor Assembly	50	50	50	50	50	50	50
Head Cover Gasket	40	40	40	40	40	40	40
FUEL & EXHAUST							
Carbon Canister (with bracket) (Model Numbers Ending in "L")	45	45	45	45	45	45	45
Carbon Canister Tube (Model Numbers Ending in "L")	30	30	30	30	30	30	30
Exhaust Pipe (Model Numbers Ending in "L")	40	40	40	40	40	40	40
Fuel Gage	30	30	30	30	30	30	30

SERVICE REPAIR TIME ANALYSIS

Operation	HW3000 HW3000L (min.)	HW4000 HW4000L (min.)	HW5500 HW5500L (min.)	HW5500E HW5500EL (min.)	HW6200 HW6200L (min.)	HW7000E HW7000EL (min.)	HW7500E HW7500EL (min.)
Vapor Line (Model Numbers Ending in "L")	30	30	30	30	30	30	30
Fuel Tank	60	60	60	60	60	60	60
Fuel Shut-off Valve	40	40	40	40	40	40	40
Muffler	50	50	50	50	60	60	60
Muffler Gasket	50	50	50	50	60	60	60
Secondary Air Intake Valve (with gasket) (Model Numbers Ending in "L")	50	50	50	50	50	50	50
MISC							
Frame (Model Numbers Ending in "L")	120	120	120	120	120	120	120
(Non-L Models)	90	90	90	90	90	90	90
Handle Assembly	30	30	30	30	30	30	30
Leg Assembly	30	30	30	30	30	30	30
Wheel Assembly	30	30	30	30	30	30	30

NOTE:

Repair times represent generally accepted intervals for conducting a repair. Service centers are always advised to provide feedback during the warranty claim process if additional time may be needed due to unforeseen circumstances.


7: MAINTENANCE

7.1 CONSUMER MAINTENANCE SCHEDULE


Periodic maintenance and adjustment are necessary to keep the generator in good operating condition. Perform service and inspection at intervals shown in the *Generator Maintenance Schedule* (Table 7-1).

⚠ DANGER

Using a generator indoors CAN KILL YOU IN MINUTES. Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.



NEVER use inside a home or garage, EVEN IF doors and windows are open.



Only use OUTSIDE and far away from windows, doors, and vents.

- Shut off the engine before performing any maintenance. If the engine must be run, be sure the area is well ventilated.

NOTICE

Maintenance, replacement, or repair of the emission control devices and systems may be performed by any non-road engine repair establishment or individual.

⚠ WARNING

Accidental starting of generator can cause severe injury or death. Before performing maintenance, disconnect spark plug cap from spark plug. Also disconnect both starting battery cables. Remove the negative (-) cable first to reduce the risk of arcing.

⚠ WARNING

Improper maintenance, or failure to correct a problem before operation, can cause a malfunction in which you can be seriously hurt or killed. Always follow inspection and maintenance recommendations and schedules in this manual.

NOTICE

The maintenance schedule applies to normal operating conditions. If you operate generator under severe conditions, such as sustained high-load or high-temperature, or use it in unusually wet or dusty conditions, consult your servicing dealer for recommendations applicable to your individual needs and use.

MAINTENANCE TASK	FREQUENCY*				
	Before each use	First month or 20 hours of use	Every 3 months or 50 hours of use	Every 6 months or 100 hours of use	Every year or 200 hours of use
Inspect for/clean debris	X				
Check engine oil level	X				
Change engine oil		X		X	
Check air filter	X				
Clean air filter			X [†]		
Run engine			X [‡]		
Clean/change spark plug				X	
Clean fuel sediment cup					X
Clean spark arrestor				X	
Clean cylinder cooling fins					X ^{**}
Check/adjust valve lash					X ^{**}
Check fuel line	Every 2 years (replace if necessary)**				

TABLE 7-1. Generator Maintenance Schedule

* Perform at every indicated month or operating hour interval, whichever comes first.

[†] Clean more often when using generator in dusty areas.

[‡] It is recommended that the generator is run for 15-30 minutes every three months to ensure the battery remains charged.




If the generator is stored for more than a year without running, a battery charger may required to recharge the generator battery.

** It is recommended that this maintenance task be performed by a service dealer.

CONSUMER MAINTENANCE SCHEDULE

FUEL RECOMMENDATIONS

Before each use, check the fuel tank gage. If the fuel level is low, refill the tank with recommended fuel. NEVER OVERFILL.

 DANGER	
	<p>Fuel and fuel vapors are extremely flammable and explosive under certain conditions.</p>
	<ul style="list-style-type: none"> • Refuel generator only outdoors, in a well-ventilated area. • NEVER fill fuel tank while engine is running. Turn generator OFF and allow to cool before filling with fuel. • NEVER smoke or allow flames or sparks near generator or where gasoline is stored. • NEVER overfill fuel tank (no fuel should be in filler neck). After refueling, tighten the fuel cap securely. • Be careful not to spill fuel when refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, the area must be dry before starting the engine. • Avoid repeated or prolonged contact with skin or breathing of vapor.

General Fuel Information

Check the fuel gage located on the top of the generator near the fuel tank and refill the tank if fuel level is low. Refuel carefully to avoid spilling fuel. Do not fill above the shoulder of fuel strainer. Use unleaded gasoline with a pump octane rating of 87 or higher.

NEVER use stale or contaminated gasoline. Avoid getting dirt or water in the fuel tank. Always keep the fuel strainer in place while refueling.

Oxygenated Fuels

At certain times of the year, some U.S. locations may have only oxygenated fuel available. Oxygenated fuel is blended with alcohol or ether additives to increase octane quality, enhance combustion, and reduce exhaust emissions.

Some areas of the United States use oxygenated fuels to help meet clean air standards.

Before using an oxygenated fuel, ensure pump octane rating is 87 or higher.

Some states (and provinces in Canada) require this information to be posted on the fuel pump. If you notice undesirable operating symptoms, switch to a conventional unleaded gasoline.

NOTICE

Oxygenated fuels can damage paint and plastic. Be careful not to spill fuel when filling fuel tank. Damage caused by spilled fuel is not covered under warranty.

TABLE 7-2. Oxygenated Fuel Types

Ethanol (ethyl or grain alcohol)	Gasoline containing more than 10% ethanol by volume may cause starting or performance problems. Gasoline containing ethanol may be marketed under the name "Gasohol".
Methanol (methyl or wood alcohol)	Gasoline containing methanol must contain co-solvents and corrosion inhibitors to protect fuel system. Gasoline containing more than 5% methanol by volume may cause starting and/or performance problems and may damage metal, rubber and plastic parts of fuel system.
MTBE (methyl tertiary butyl ether)	Gasoline containing up to 15% MTBE by volume can be used.

NOTICE

To avoid damage to the engine, NEVER use stale or contaminated gasoline or oil/gasoline mixture. Avoid getting dirt or water in the fuel tank.

Use fresh gasoline with a pump octane rating of 87 or higher.

NOTICE

Running the engine with persistent spark knock or pinging can cause engine damage. Warranty does not cover parts damaged by misuse.

AIR FILTER MAINTENANCE

ENGINE OIL RECOMMENDATIONS

NOTICE

Engine oil is a major factor affecting engine performance and service life. NEVER use non-detergent or 2-stroke engine oils.

- Use engine oils specified below.

It is very important to maintain proper level of engine oil to keep engine in good running condition.

- Check engine oil level prior to each use. Refill engine oil if oil level is too low.

Use 4-stroke oil, or equivalent high detergent, premium quality motor oil certified to meet or exceed U.S. automobile manufacturer's requirements for API Performance Class SL, SJ, or better.

SAE 10W-30 is recommended for general temperature use. Refer to Figure 7-1 for information on other viscosities that may be used. Other viscosities shown in the chart may be used when the average temperature in your area is within the indicated range.

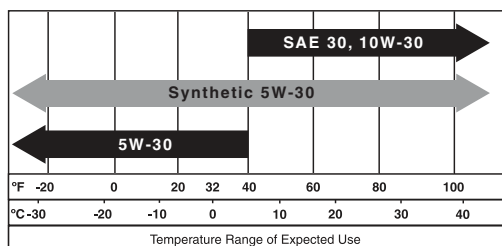


FIGURE 7-1: Recommended Oil Viscosity

NOTE:

Dispose of used motor oil according to guidelines established by your local or state government.

Low Oil Protection

The generator engine is protected from low lubrication failure by an oil shutdown switch. This switch prevents the operation of the ignition system until sufficient oil is added to the crankcase for proper engine lubrication.

When engine shuts down due to low oil level:

1. The engine control switch will remain in the RUN position.
2. The engine will not start until the required amount of engine oil is added.

WARNING



ALWAYS stop engine before removing oil fill dipstick.

Crankcase pressure can cause hot engine oil to spray out of engine fill hole. Hot engine oil can cause severe burns.

7.2 AIR FILTER MAINTENANCE

NOTICE

A dirty air filter will restrict air flow to carburetor, which may cause poor engine performance or damage. NEVER run the generator without the air cleaner assembly properly attached.

Clean air filter every 50 hours of generator operation. If operating generator in extremely dusty areas, clean air filter more frequently.

WARNING



Gasoline and flammable solvents can cause fire or explosion. NEVER use gasoline or flammable solvent to clean air filter element.



- Use only household soap and water to clean air filter element.

To clean air filter, you will need:

- ☐ Household soap and water
- ☐ Clean, dry cloth
- ☐ Clean engine oil

1. Stop engine if it is running.
2. Remove air cleaner cover.

For Model Numbers Ending in "L":

- Unlock the latches at the top and bottom of the air cleaner cover.

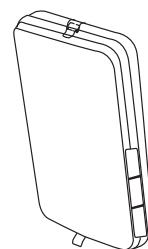


FIGURE 7-2: Air Cleaner Cover—Model Numbers Ending in "L"

For Non-L Models:

- Turn thumbscrew counterclockwise to loosen and remove.
- Pull bottom of air cleaner cover out and lift up to release plastic tabs.

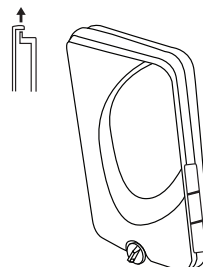


FIGURE 7-3: Air Cleaner Cover—Non-L Models

AIR FILTER MAINTENANCE

3. Remove foam air filter(s).

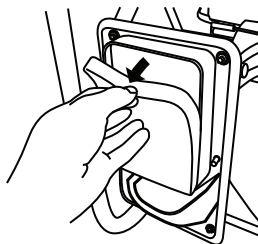


FIGURE 7-4: Air Filter Removal

4. Wash air filter(s) in a solution of household soap and warm water.



FIGURE 7-5: Wash Air Filter

5. Rinse parts thoroughly with water.
6. Using a clean, absorbent cloth, squeeze air filter dry, being careful not to twist or tear the filter.

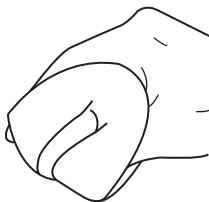


FIGURE 7-6: Dry Air Filter

7. Coat the air filter with clean engine oil.

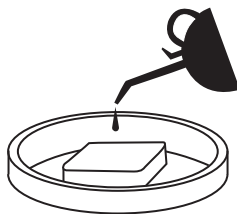


FIGURE 7-7: Oil Air Filter

8. Squeeze out excess oil.

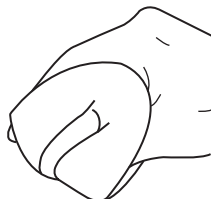


FIGURE 7-8: Excess Oil Removal

⚠ CAUTION

Frequent or prolonged contact with engine oil may cause skin cancer.

- Thoroughly wash hands and any areas of skin exposed to used oil with soap and water.

❗ NOTE:

Engine will smoke during initial start-up if too much oil is left in filter.

9. Reassemble the air cleaner assembly.

For Model Numbers Ending in "L":

9A. Reinstall the light grey foam air filter.

9B. Reinstall the dark grey foam air filter.

9C. Reinstall the air cleaner cover.

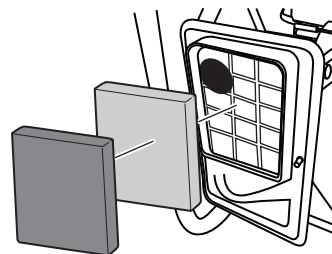


FIGURE 7-9: Air Filter Installation—Model Numbers Ending in "L"
(filter shape varies by model)

For Non-L Models:

9A. Reinstall the metal air filter plate in the support brackets if it fell out during air filter removal.

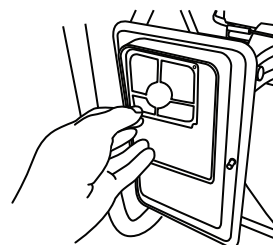


FIGURE 7-10: Air Filter Plate Installation—Non-L Models
(air filter plate shape varies by model)

9B. Reinstall air filter.

9C. Reinstall the air cleaner cover.

CLEANING FUEL SEDIMENT CUP

7.3 CLEANING FUEL SEDIMENT CUP

The sediment cup prevents any dirt or water that may be in the fuel tank from entering the carburetor.

Clean fuel sediment cup at the intervals specified in Table 7-1.

To clean fuel sediment cup, you will need:

- ☐ 10 mm box wrench
- ☐ 22 mm open end wrench
- ☐ Household soap and water
- ☐ Clean, dry cloth

To clean fuel sediment cup:

1. Stop the engine if it is running. Allow to completely cool.
2. Place generator on a flat, level surface.
3. Turn the fuel shut-off valve to the OFF position.
4. While holding the fitting above the fuel shut-off valve with a 22 mm open end wrench, remove the fuel sediment cup assembly (sediment cup, o-ring, and fuel screen) using a 10 mm box wrench.

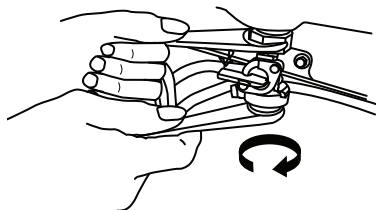


FIGURE 7-11: Fuel Sediment Cup Assembly Removal

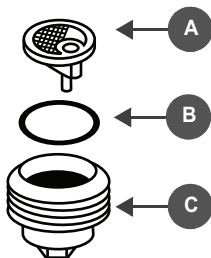


FIGURE 7-12: Fuel Sediment Cup Assembly

5. Clean the fuel screen (A), o-ring (B), and sediment cup (C), with soap and water.
6. Rinse parts thoroughly with water.
7. Wipe the pieces clean with a clean, dry cloth.
8. Reinstall the sediment cup, o-ring, and fuel screen.
9. Turn the fuel shut-off valve to the ON position.
10. Start generator and check for leaks.

7.4 SPARK PLUG SERVICE

To ensure proper engine operation, the spark plug must be properly gapped and free of deposits.

WARNING



If the engine has been running, the spark plug will reach temperatures that could cause severe burns. Do not touch.

1. Measure the spark plug gap with a wire feeler gauge. Gap should be: 0.028-0.031 in. (0.70-0.80 mm).

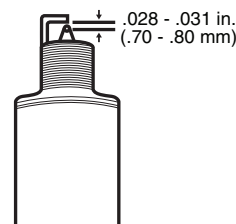


FIGURE 7-13: Correct Spark Plug Gap

2. If necessary, adjust gap by carefully bending side electrode.
3. Torque spark plug to 28 N•m (21 lb. ft.).

NOTICE

The spark plug must be securely tightened. An improperly tightened spark plug can become very hot and damage the engine. NEVER use spark plugs that have an improper heat range. Use only recommended spark plugs or equivalent.

HW3000 & HW3000L Models:

Recommended Spark Plug Replacement: 102557A

AutoLite	62
Bosch	WR5DC
Champion	RN6YC
Denso	W22EPR-U
NGK	BPR7ES

TABLE 7-3. Spark Plug Equivalents to 102557A

All Other Models:

Recommended Spark Plug Replacement: 100842A

AutoLite	63
Bosch	WR7DC
Champion	RN9YC
Denso	W20EPR
NGK	BPR6ES

TABLE 7-4. Spark Plug Equivalents to 100842A

CLEANING SPARK ARRESTOR SCREEN

7.5 CLEANING SPARK ARRESTOR SCREEN

WARNING



Muffler reaches temperatures that can cause serious burns if touched. NEVER touch hot surfaces.

The generator muffler is equipped with a spark arrestor screen, which must be cleaned according to the maintenance schedule (see Table 7-1) to ensure prevention of sparks escaping generator.

To clean spark arrestor screen, you will need:

- ☐ 1/4" socket wrench
- ☐ 8 mm socket
- ☐ 7/32" socket
- ☐ #2 Phillips screwdriver
- ☐ Wire brush

1. Stop the engine if it is running. Allow to completely cool.
2. Place generator on a flat, level surface.
3. Using a socket wrench with an 8 mm socket, remove the muffler cover bolts (muffler cover not present on HW3000 or HW3000L models).
4. Remove muffler cover.

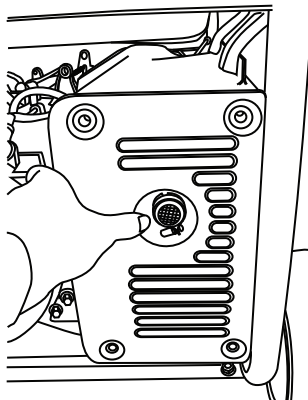


FIGURE 7-14: Remove Muffler Cover

5. Using a screwdriver, loosen and remove the spark arrestor clamp (A) screw.

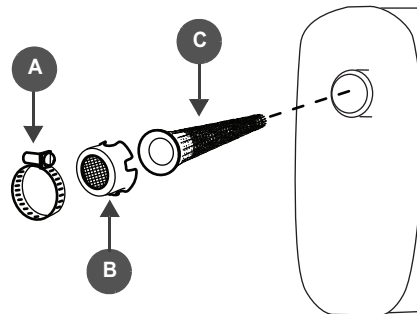


FIGURE 7-15: Spark Arrestor Assembly

6. Slide off spark arrestor clamp.
7. Using a socket wrench with a 7/32" socket, remove the retaining screw on spark arrestor screen cap (B); pull off cap.
8. Pull out spark arrestor screen (C).
9. Inspect spark arrestor screen.
 - If screen is damaged or excessively worn, replace with new screen.
 - If screen is in good condition, clean using wire brush and then reinstall.

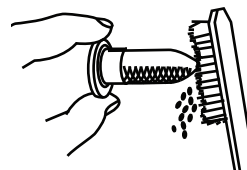


FIGURE 7-16: Clean Screen

10. Reinstall remaining spark arrestor components.
 - Spark arrestor screen cap and screw
 - Clamp and screw
 - Muffler cover

7.6 VALVE LASH

CAUTION

Valve lash inspection and adjustment must be performed with the engine cold.

1. Remove the cylinder head cover and carefully remove the gasket for re-use. (Inspect and replace gasket, if necessary.)
2. Remove the spark plug to reduce engine compression resistance.
3. Turn the engine crankshaft using the recoil starter, positioning engine at top, dead center, of the compression stroke. This can be verified by the piston position in the cylinder.
4. Insert a feeler gauge between the rocker arm and valve spring to measure valve lash.

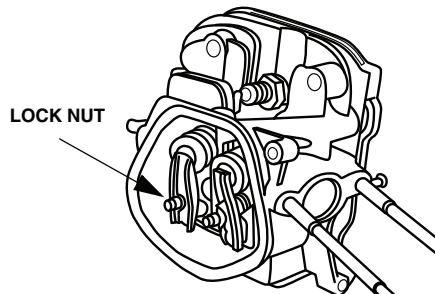


FIGURE 7-17: Lock Nut Location

Standard valve lash	IN.	0.005±0.001 in (0.125±0.025 mm)
	EX.	0.007±0.001 in (0.175±0.025 mm)

TABLE 7-5. Standard Valve Lash

A—ROCKER ARM

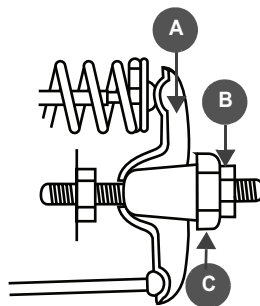
B—LOCK NUT

12 N•m (9 lb. ft.)

- To increase valve lash, screw pivot nut out.
- To decrease valve lash, screw pivot nut in.

C—PIVOT BOLT

30 N•m (22 lb. ft.)



5. Hold the rocker arm pivot and loosen the lock nut (see B in illustration).
6. Turn the rocker arm pivot (see C in illustration) to obtain specified valve lash.
7. Retighten the lock nut while holding rocker arm pivot and torque to 12 N•m (9 lb. ft.).
8. Check valve lash again after tightening lock nut.
9. Repeat steps 4 through 7, as needed, until valve lash is within specifications.
10. Reassemble the spark plug, cylinder head cover, and gasket.

7.7 GOVERNOR ADJUSTMENT

1. Start the engine and run with no load.
2. Attach a frequency meter and adjust the limiting screw on the governor stop to 62.5 Hz ± 0.5.
3. Stop the engine.
4. If frequency is out of range, see the "GOVERNOR RANGE ADJUSTMENT" procedure below.
5. Repeat steps 1 through 3. If frequency still out of range, see ENGINE DIAGNOSTICS (ALL MODELS), page 8-10

7.8 GOVERNOR RANGE ADJUSTMENT

1. Remove the generator control panel for access.
2. Loosen the nut on the governor arm pinch bolt (see illustration).

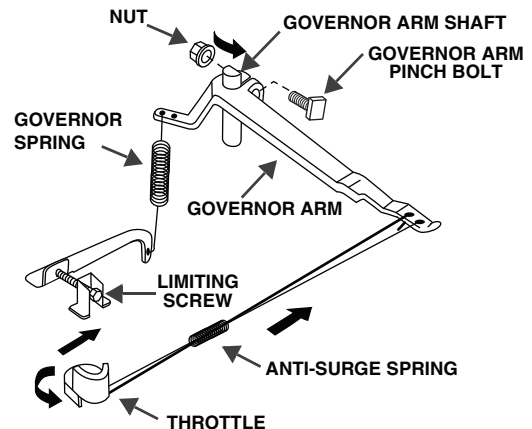


FIGURE 7-18: Governor Arm Assembly

3. Rotate the governor arm shaft counter-clockwise until the throttle is completely open and hold in position.
4. Tighten the nut on the governor arm pinch bolt to maintain position.
5. Confirm the governor arm and throttle move smoothly and do not bind.
6. Reinstall the generator control panel.

BATTERY SERVICE

7.9 BATTERY SERVICE

To ensure the battery remains charged, it is recommended that the generator is started every three months. If the generator is stored for more than a year without running, a battery charger may be required to recharge the generator battery.

Recommended Battery Replacement: 101536A

Xtreme	XTAX14AHL-BS
Yuasa	12N14-3A

TABLE 7-6. Replacement Battery Equivalents to 101536A

To replace battery:

1. Remove spark plug cap.

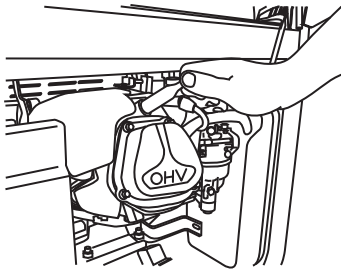


FIGURE 7-19: Spark Plug Cap Removal

2. Loosen and remove nuts on retaining plate; slide retaining plate off support rods.

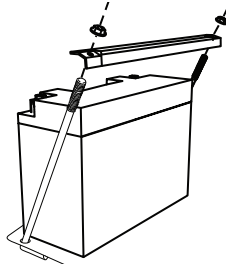


FIGURE 7-20: Electric Start Battery—Remove Retaining Plate

3. Tip battery slightly forward.
4. Disconnect the black negative (-) battery lead removing the bolt and nut.

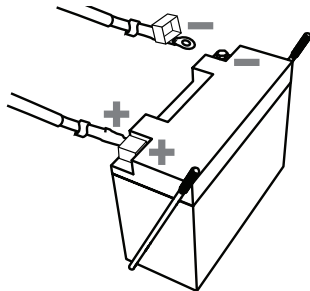


FIGURE 7-21: Electric Start Battery—Lead Connection

5. Disconnect the red positive (+) battery lead removing the bolt and nut.

6. Remove the battery.

NOTE:

Dispose of used battery according to guidelines established by your local or state government.

7. Place the new battery in the generator frame.
8. Connect the red positive (+) battery lead to the positive (+) post on the battery; install bolt, nut, and boot.
9. Connect the black negative (-) battery lead to the negative (-) post on the battery; install bolt, nut, and boot.
10. Reinstall retaining plate; tighten bolts and nuts.
11. Reinstall spark plug cap.

8: TROUBLESHOOTING

WARNING



ANYONE using or servicing this generator must read, understand, and follow all safety and operation instructions provided in the product manual. Failure to closely follow these instructions can result in circumstances leading to death, serious injury, and property damage.

DANGER

Using a generator indoors CAN KILL YOU IN MINUTES. Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.



NEVER use inside a home or garage, EVEN IF doors and windows are open.



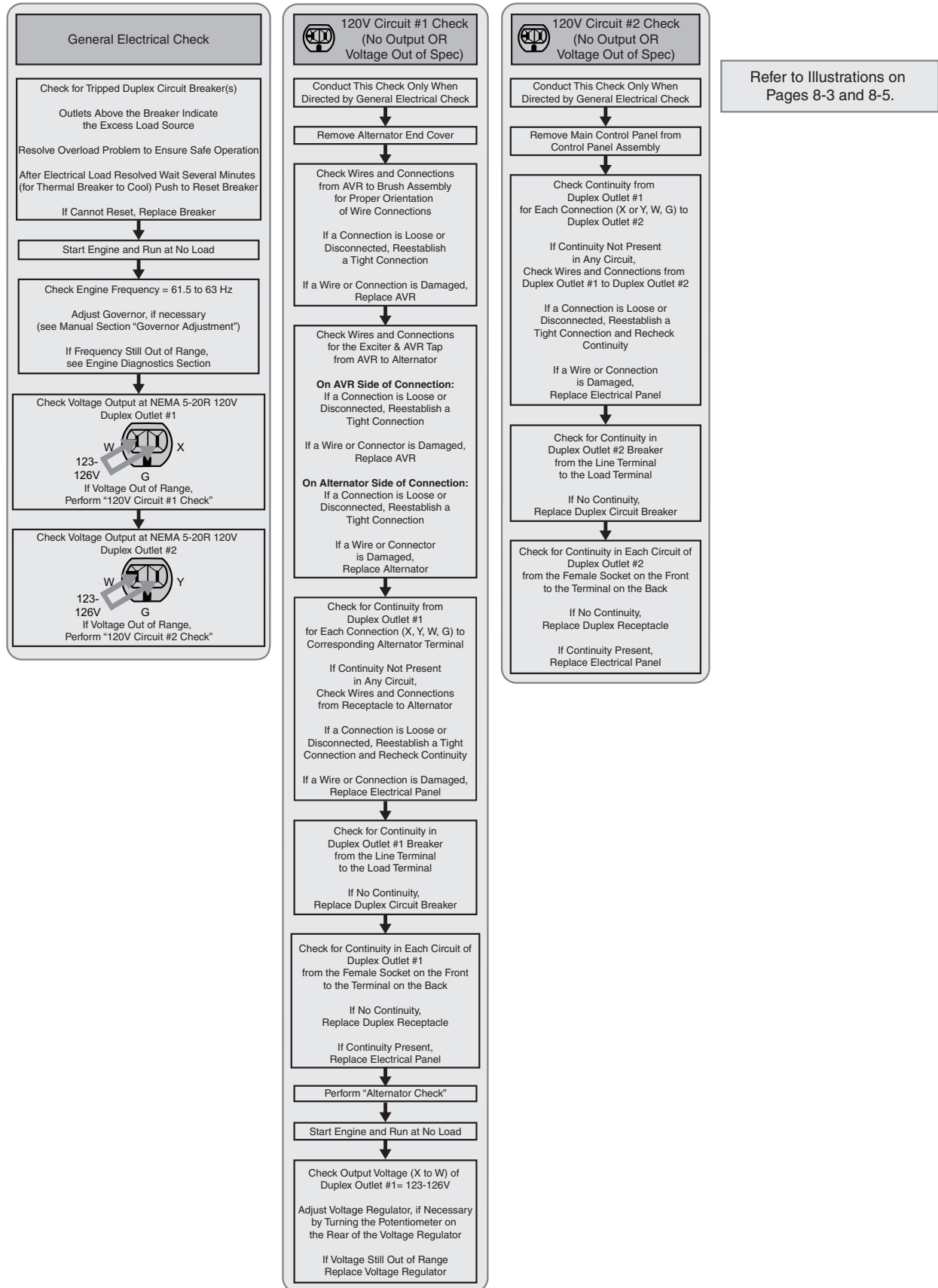
Only use OUTSIDE and far away from windows, doors, and vents.

NOTE:

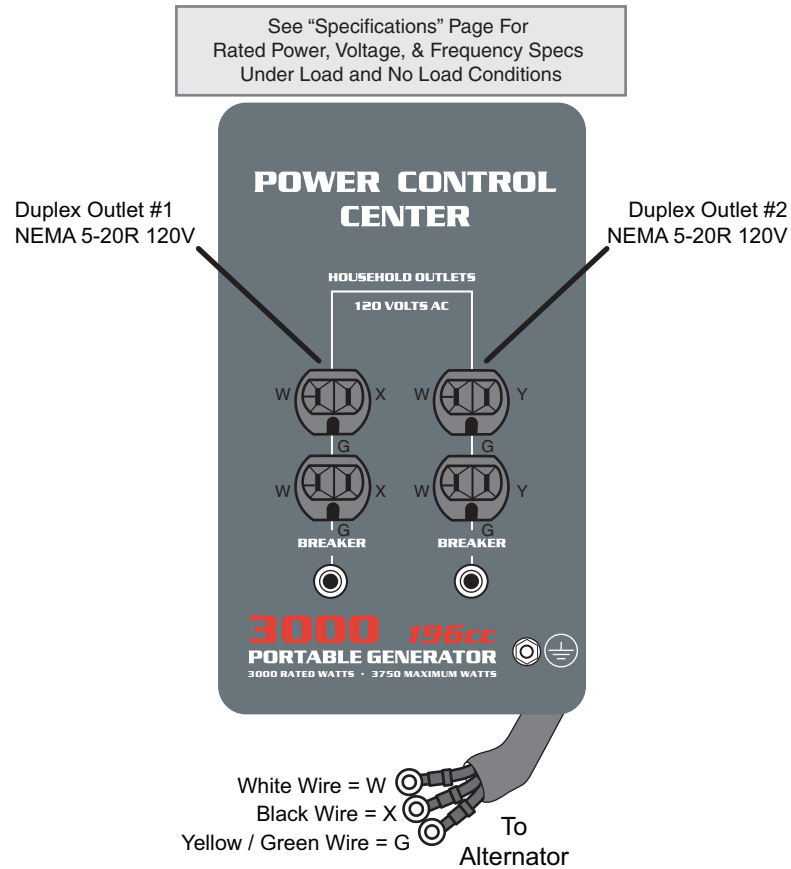
For all dealer service inquiries, call 1-877-HWTECHS (498-3247) or visit www.honeywellgenerators.com.

ELECTRICAL DIAGNOSTICS (HW3000/L MODELS)

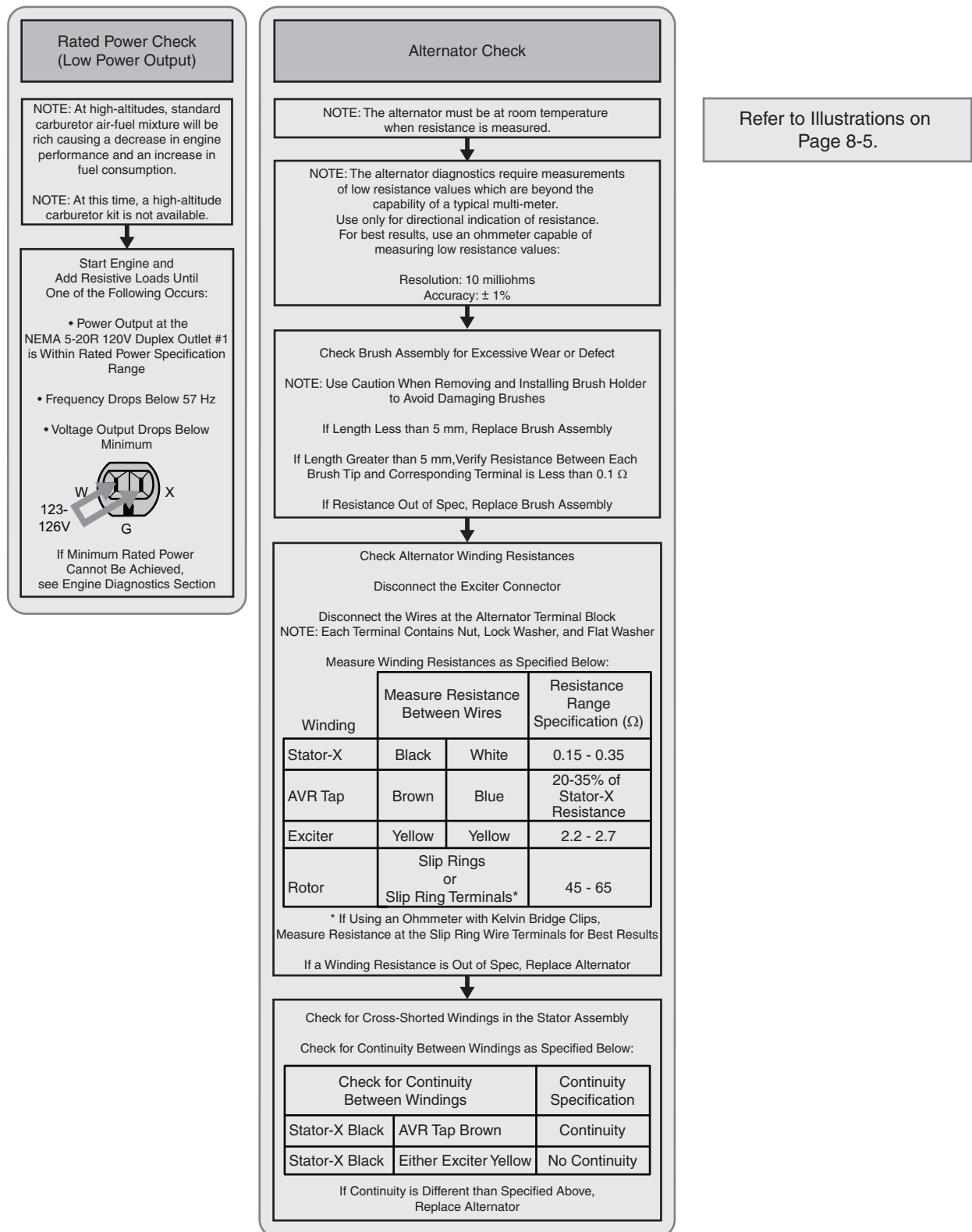
8.1 ELECTRICAL DIAGNOSTICS (HW3000/L MODELS)



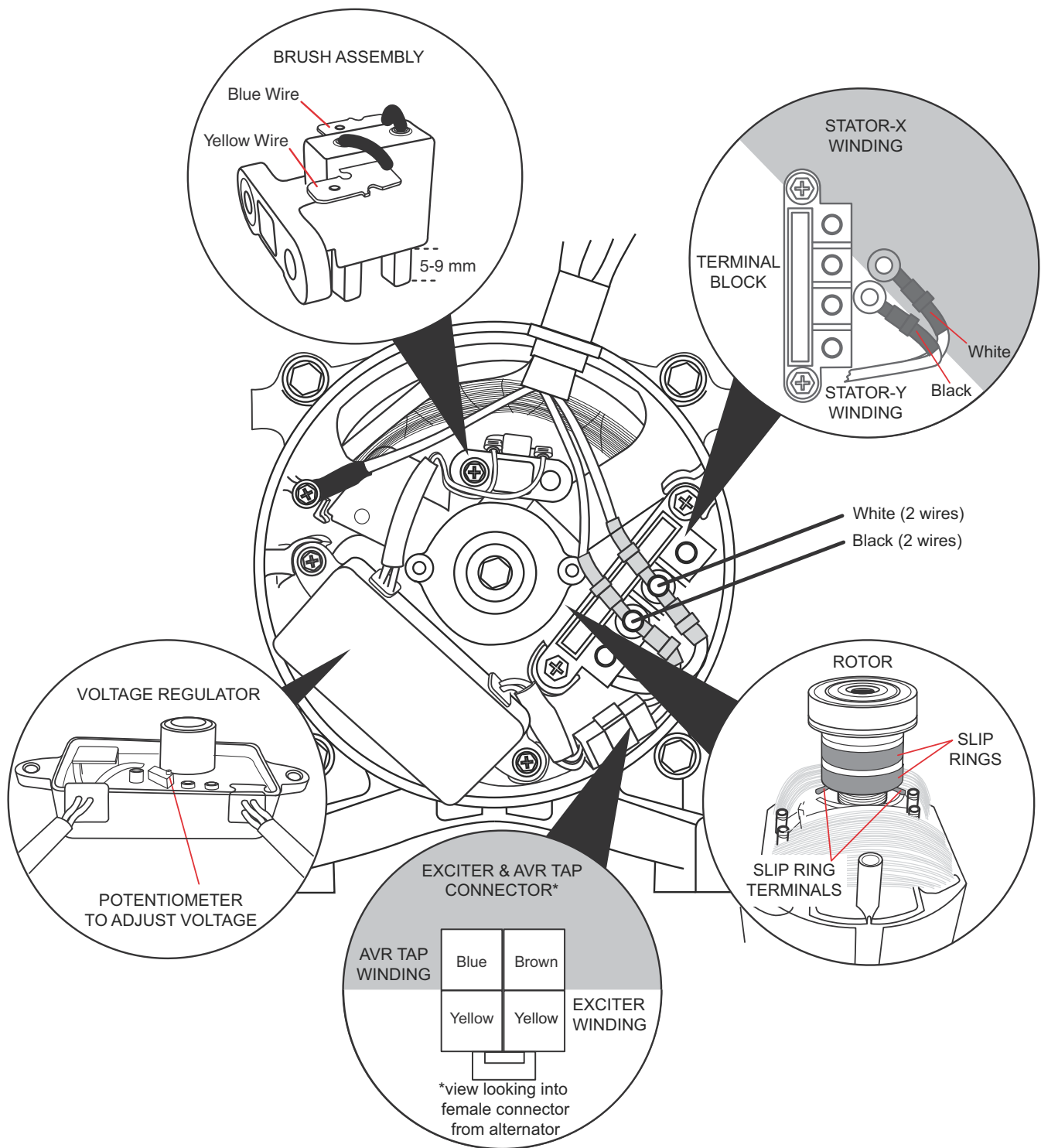
ELECTRICAL DIAGNOSTICS (HW3000/L MODELS)



ELECTRICAL DIAGNOSTICS (HW3000/L MODELS)

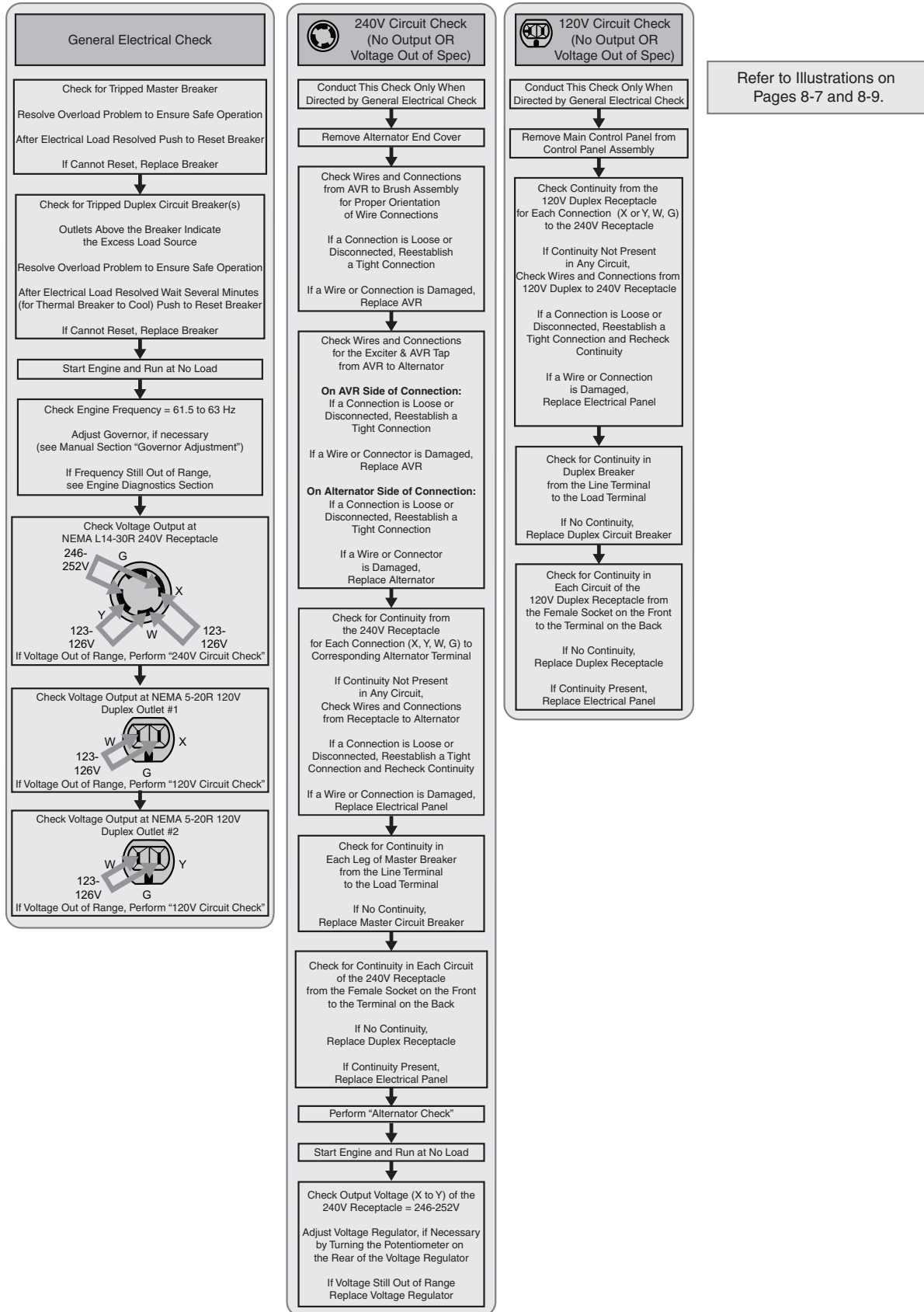


ELECTRICAL DIAGNOSTICS (HW3000/L MODELS)

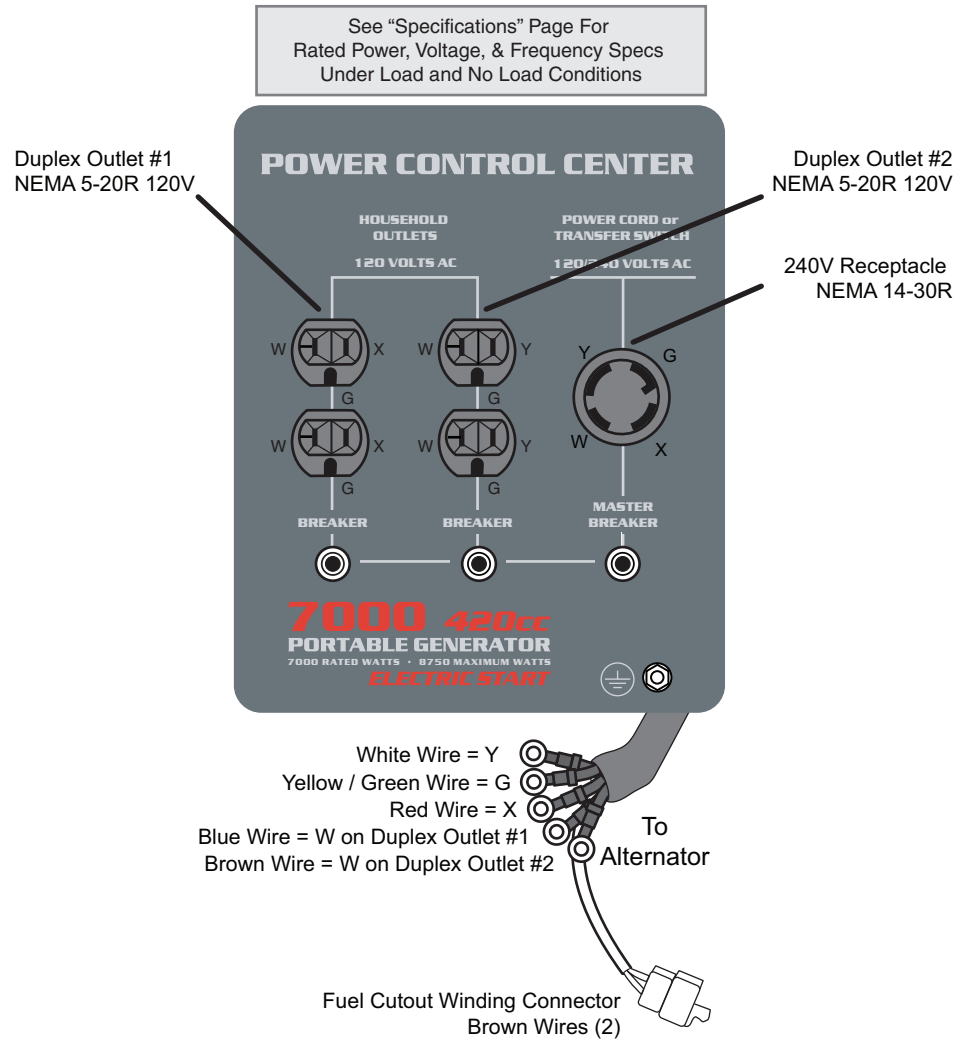


ELECTRICAL DIAGNOSTICS (ALL MODELS EXCEPT HW3000/L)

8.2 ELECTRICAL DIAGNOSTICS (ALL MODELS EXCEPT HW3000/L)



ELECTRICAL DIAGNOSTICS (ALL MODELS EXCEPT HW3000/L)



ELECTRICAL DIAGNOSTICS (ALL MODELS EXCEPT HW3000/L)

Rated Power Check (Low Power Output)

NOTE: At high-altitudes, standard carburetor air-fuel mixture will be rich causing a decrease in engine performance and an increase in fuel consumption.

NOTE: At this time, a high-altitude carburetor kit is not available.

Start Engine and Add Resistive Loads Until One of the Following Occurs:

- Power Output at the NEMA L14-30R 240V Receptacle is Within Rated Power Specification Range

- Frequency Drops Below 57 Hz

- Voltage Output Drops Below Minimum

228-252V
G
X
Y
W
114-126V
114-126V

If Minimum Rated Power Cannot Be Achieved, see Engine Diagnostics Section

Alternator Check

NOTE: The alternator must be at room temperature when resistance is measured.

NOTE: The alternator diagnostics require measurements of low resistance values which are beyond the capability of a typical multi-meter. Use only for directional indication of resistance. For best results, use an ohmmeter capable of measuring low resistance values:

Resolution: 10 milliohms
Accuracy: $\pm 1\%$

Check Brush Assembly for Excessive Wear or Defect

NOTE: Use Caution When Removing and Installing Brush Holder to Avoid Damaging Brushes

If Length Less than 5 mm, Replace Brush Assembly

If Length Greater than 5 mm, Verify Resistance Between Each Brush Tip and Corresponding Terminal is Less than 0.1Ω

If Resistance Out of Spec, Replace Brush Assembly

Check Alternator Winding Resistances

Disconnect the Exciter Connector

Disconnect the Fuel Cutout Winding Connector

Disconnect the Wires at the Alternator Terminal Block

NOTE: Each Terminal Contains Nut, Lock Washer, and Flat Washer

Measure Winding Resistances as Specified Below:

Winding	Measure Resistance Between Wires		Resistance Range Specification (Ω)			
			HW4000/L	HW5500/L HW5500E/L	HW6200/L	HW7000E/L HW7500E/L
Stator-X	Red	Blue	0.5 - 0.7	0.25 - 0.45	0.2 - 0.35	0.15 - 0.25
Stator-Y	White	Brown				
AVR Tap	Green	White	20-35% of Stator-X Resistance			
Exciter	Blue	Blue	1.8 - 2.5	1.7 - 2.3	1.8 - 2.5	1.3 - 1.8
Fuel Cutout	Brown	Brown	0.4 - 0.6	0.3 - 0.5	0.3 - 0.5	0.3 - 0.5
Rotor	Slip Rings or Slip Ring Terminals*		30 - 55	40 - 60	37 - 68	45 - 70

* If Using an Ohmmeter with Kelvin Bridge Clips, Measure Resistance at the Slip Ring Wire Terminals for Best Results

If a Winding Resistance is Out of Spec, Replace Alternator

Check for Cross-Shorted Windings in the Stator Assembly

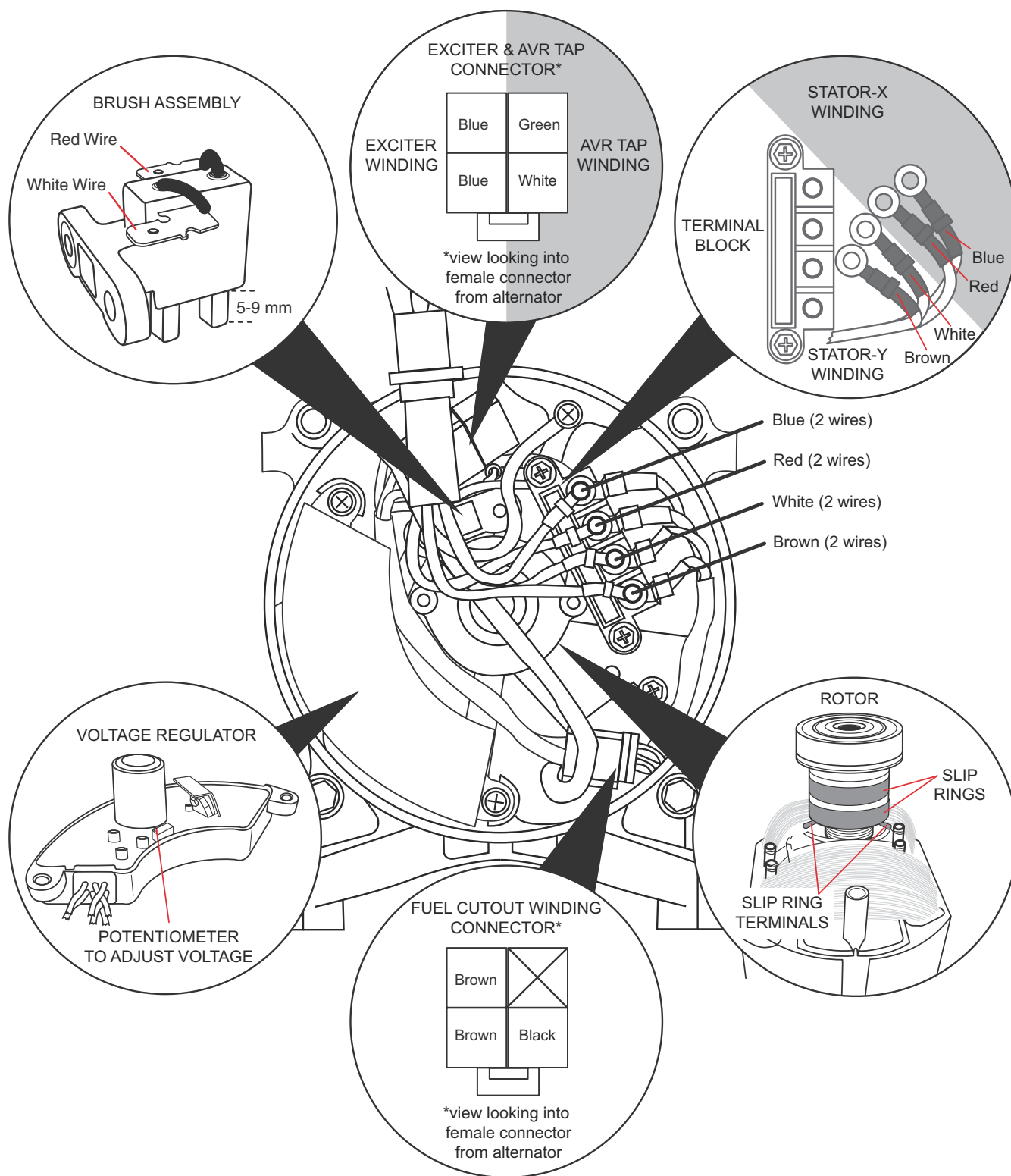
Check for Continuity Between Windings as Specified Below:

Check for Continuity Between Windings		Continuity Specification
Stator-X Red	Stator-Y White	No Continuity
Stator-X Red	AVR Tap Green	Continuity
Stator-Y White	AVR Tap Green	No Continuity
Stator-X Red	Either Exciter Blue	No Continuity
Stator-Y White	Either Exciter Blue	No Continuity
Stator-X Red	Either Fuel Cutout Brown	No Continuity
Stator-Y White	Either Fuel Cutout Brown	No Continuity
Either Exciter Blue	Either Fuel Cutout Brown	No Continuity

If Continuity is Different than Specified Above, Replace Alternator

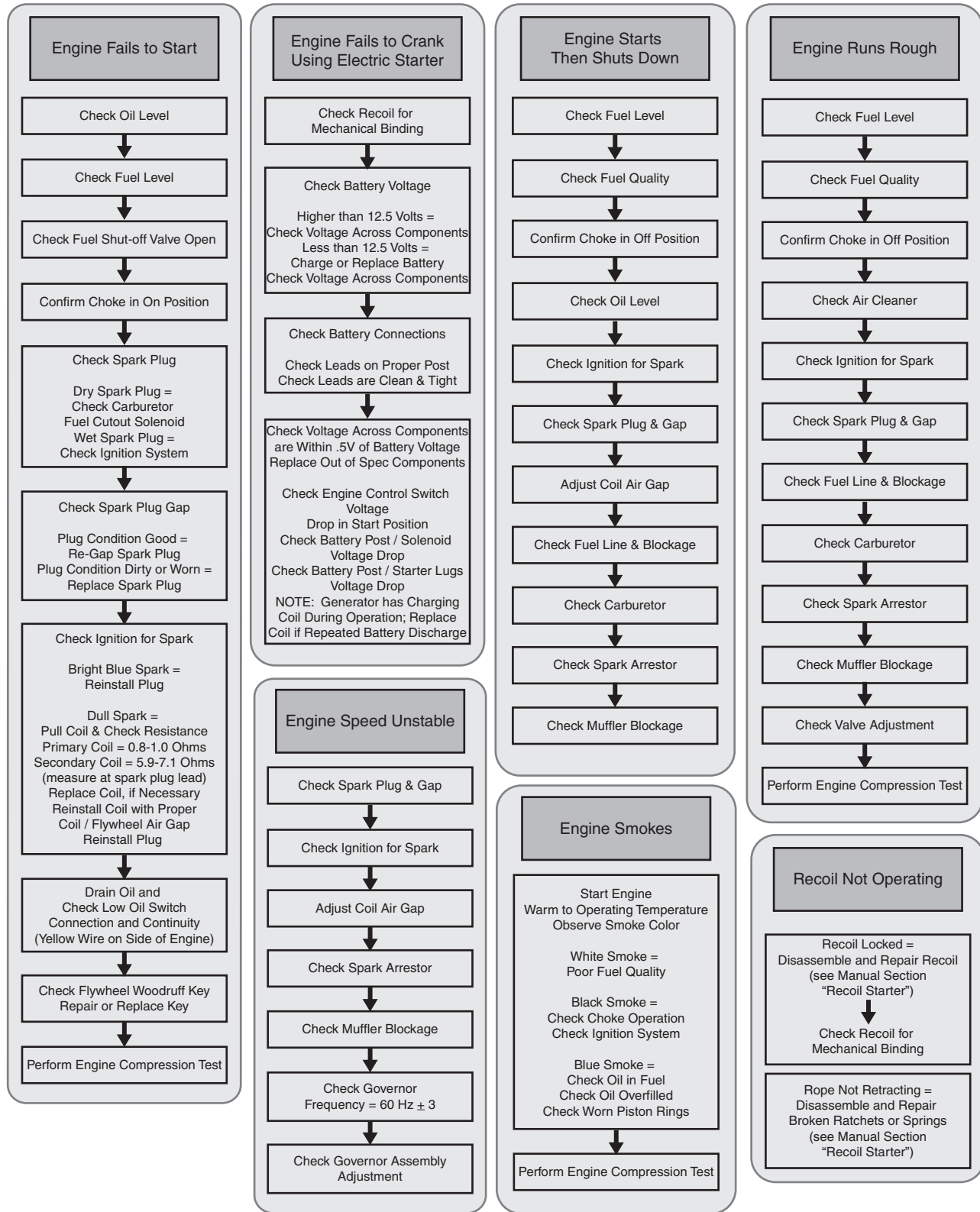
Refer to Illustrations on Page 8-9.

ELECTRICAL DIAGNOSTICS (ALL MODELS EXCEPT HW3000/L)



ENGINE DIAGNOSTICS (ALL MODELS)

8.3 ENGINE DIAGNOSTICS (ALL MODELS)



9: SERVICE AND DISASSEMBLY

9.1 CONTROL PANEL

A—CONTROL PANEL ASSEMBLY (FRONT)

4 N•m (3 lb. ft.)

B—CONTROL PANEL ASSEMBLY (BACK)

C—MAIN CONTROL PANEL (FRONT)

- 125VAC 20 Amp Duplex (NEMA 5-20R)
- 125/250VAC 30 Amp Twist-Lock (NEMA L14-30R)
NOTE: Not present on HW3000 or HW3000L models.

- Master Circuit Breaker (Magnetic)
- Circuit Breaker (Thermal)

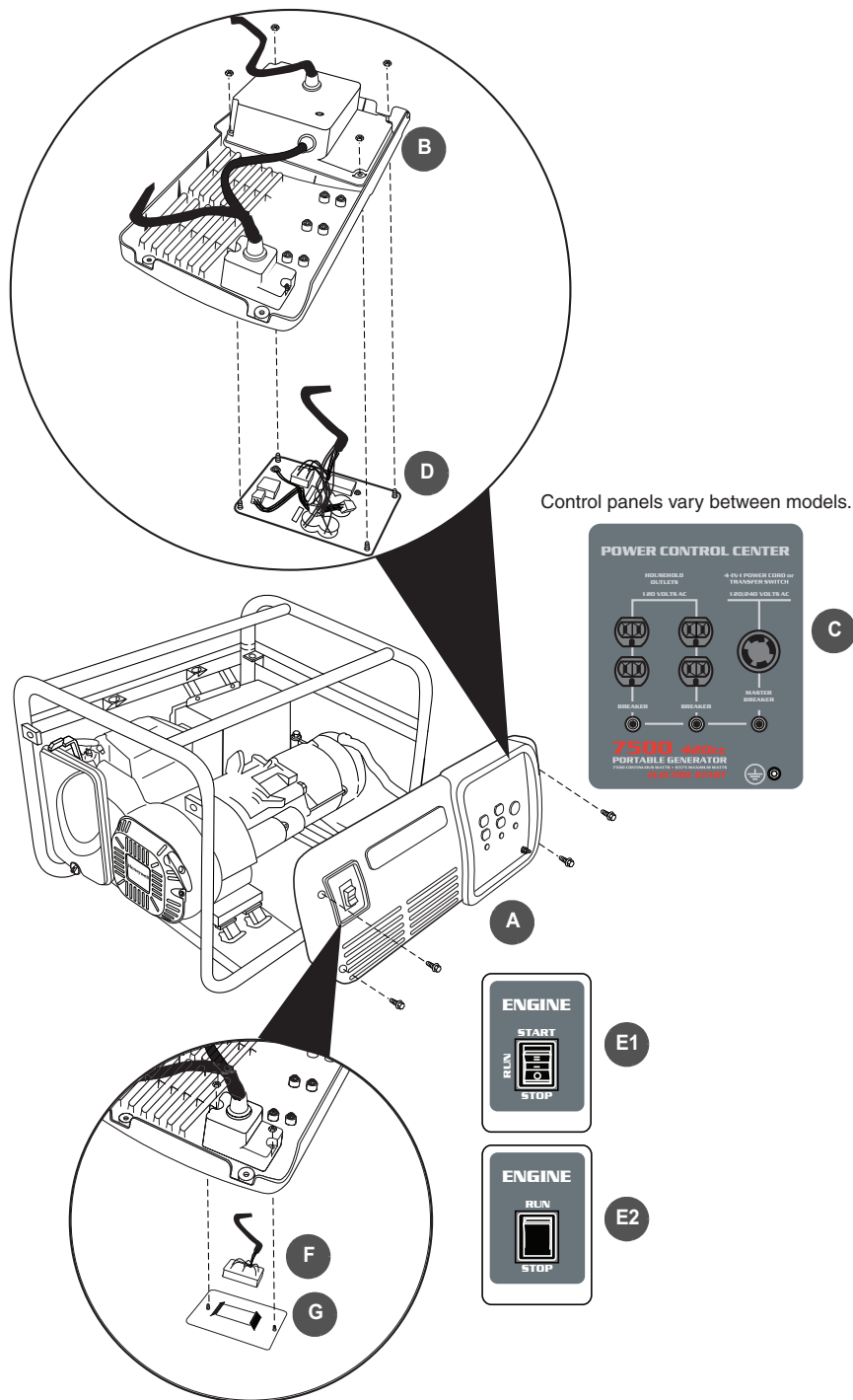
D—MAIN CONTROL PANEL (BACK)

E—SWITCH PLATE (FRONT)

- E1 - Electric Start Models (HW5500E, HW5500EL, HW7000E, HW7000EL, HW7500E, HW7500EL)
- E2 - Manual Start Models (HW3000, HW3000L, HW4000, HW4000L, HW5500, HW5500L, HW6200, HW6200L)

F—ENGINE CONTROL SWITCH

G—SWITCH PLATE (BACK)



ENGINE AND ALTERNATOR

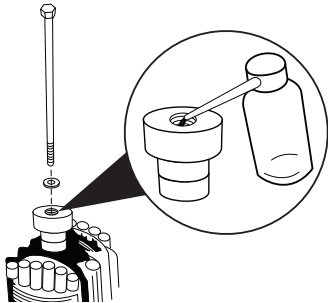
9.2 ENGINE AND ALTERNATOR

A—END COVER

4 N•m (3 lb. ft.)

B—ROTOR BOLT

Use oil before replacing the rotor bolt.



C—ALTERNATOR HOUSING BOLTS

48 N•m (35 lb. ft.)

D—REAR BEARING CARRIER AND STATOR

See CARBURETOR, page 9-7.

E—ROTOR

See ROTOR, page 9-5.

F—ENGINE

Contact an authorized service dealer for engine maintenance and repairs.

Cylinder Head Bolts - 48 N•m (35 lb. ft.)

G—VIBRATION ISOLATORS

Insert tabs into holes.

Check rubber is not chipped, hardened, or worn.

Refer to illustration for proper positioning.

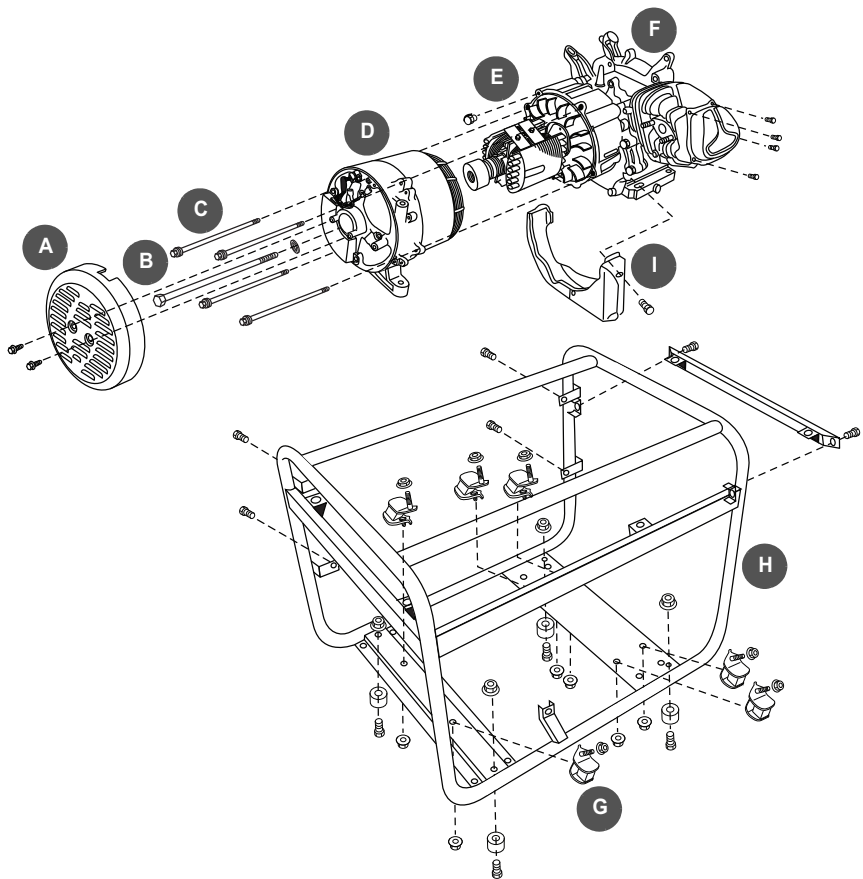
NOTE: On some models there are only 4 vibration isolators instead of 6.

H—FRAME

See WHEEL, LEG, & HANDLE ASSEMBLY, page 9-11.

I—CRANKCASE COVER

28 N•m (21 lb. ft.)



9.3 ALTERNATOR

A—VOLTAGE REGULATOR

B—BRUSH ASSEMBLY

Before removing rotor and stator, remove brush assembly.

2 N•m (1.5 lb. ft.)

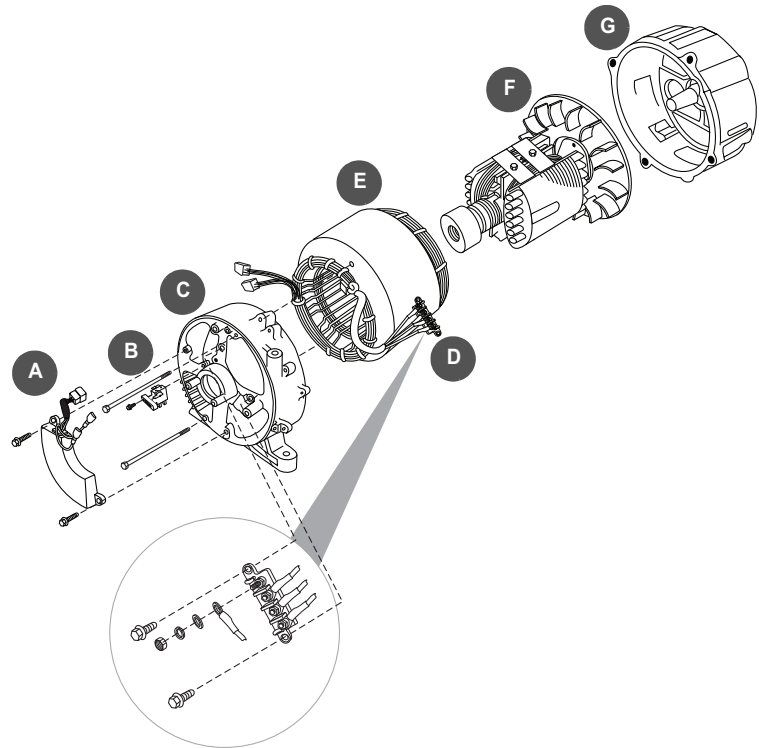
C—REAR BEARING CARRIER

D—MAIN WINDING TERMINAL BLOCK

E—STATOR

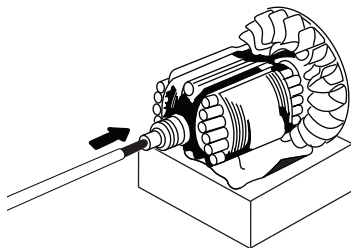
F—ROTOR

Install appropriate alternator removal tool (special tool), hold flywheel, and torque tool to 48 N•m (35 lb. ft.).



NOTICE

Rotor can become damaged if not properly supported. Place wooden block and rag underneath rotor for support.



If torquing alternator removal tool does not free rotor from crankshaft, tap end of tool with brass hammer to loosen rotor.

CAUTION



To prevent eye injury, always wear safety glasses or goggles when using a hammer.

G—ALTERNATOR ENGINE ADAPTER

H—GROUND CABLE

I— EXCITER WINDING CONNECTOR

J—BRUSH ASSEMBLY

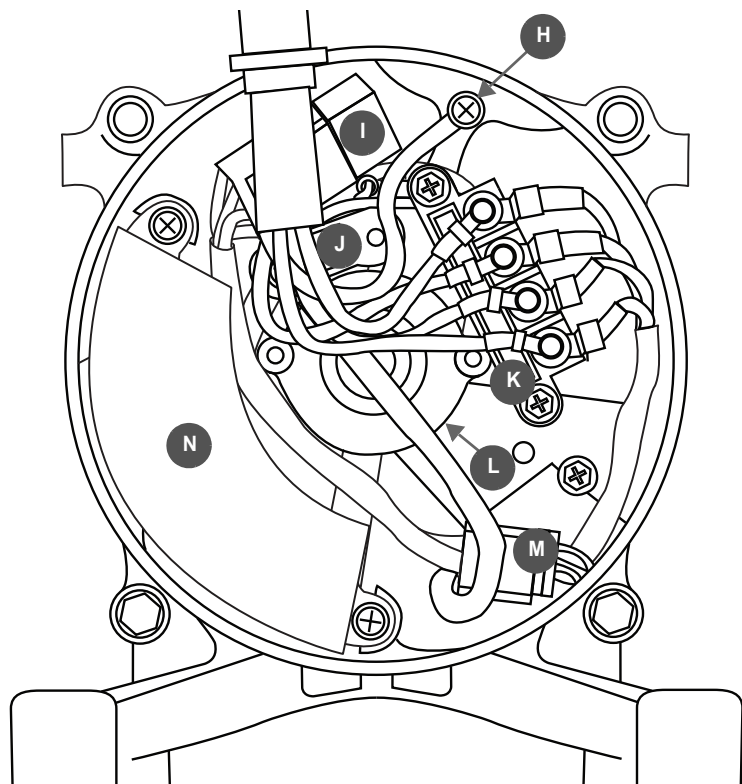
K—TERMINAL BLOCK

L—SLIP RINGS

M—FUEL CUTOUT CONNECTOR

N—VOLTAGE REGULATOR

Also known as Automatic Voltage Regulator or AVR.



Alternator Illustrated Matches All Models Except HW3000 & HW3000L

FUEL TANK SYSTEM

9.4 FUEL TANK SYSTEM

⚠ WARNING



Fuel and its vapors are extremely flammable and explosive under certain conditions.



- Refuel the generator only outdoors, in a well-ventilated area.
- NEVER enclose the generator in any structure.
- Keep generator at least 6 feet (2 meters) away from buildings, other equipment, and combustible materials during operation.
- NEVER fill the fuel tank while the engine is running. Turn the generator OFF and allow it to cool before filling with fuel.
- NEVER smoke or allow flames or sparks near the generator or where gasoline is stored.
- NEVER overfill the fuel tank (there should be no fuel in the filler neck). After refueling, tighten the fuel cap securely.
- Be careful not to spill fuel when refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, the area must be dry before starting the engine.
- Avoid repeated or prolonged contact with skin or breathing of vapor.

A—FUEL GAGE

After reassembly, check float for proper operation.

B—FUEL CAP

Check air vent hole is clean and free of obstruction. Blow with compressed air if necessary.

NOTE: For model numbers ending in “L”, the fuel cap will be attached to the fuel tank with a chain.

C—FUEL STRAINER

Before reassembly, check fuel strainer is clean and undamaged.

D—FUEL TANK MOUNTING HARDWARE

10 N•m (7 lb. ft.)

E—FUEL TANK

Before reassembly, clean fuel tank to remove any sediment and drain completely.

- E1 - Model Numbers Ending in “L” (HW3000L, HW4000L, HW5500L, HW5500EL, HW6200L, HW7000EL, HW7500EL)
- E2 - Non “L” Models (HW3000, HW4000, HW5500, HW5500E, HW6200, HW7000E, HW7500E)

F—FUEL SHUT-OFF VALVE

Clear passages if clogged.
After reinstalling, check for fuel leakage.
Hex fitting - 24 N•m (17 lb. ft.)

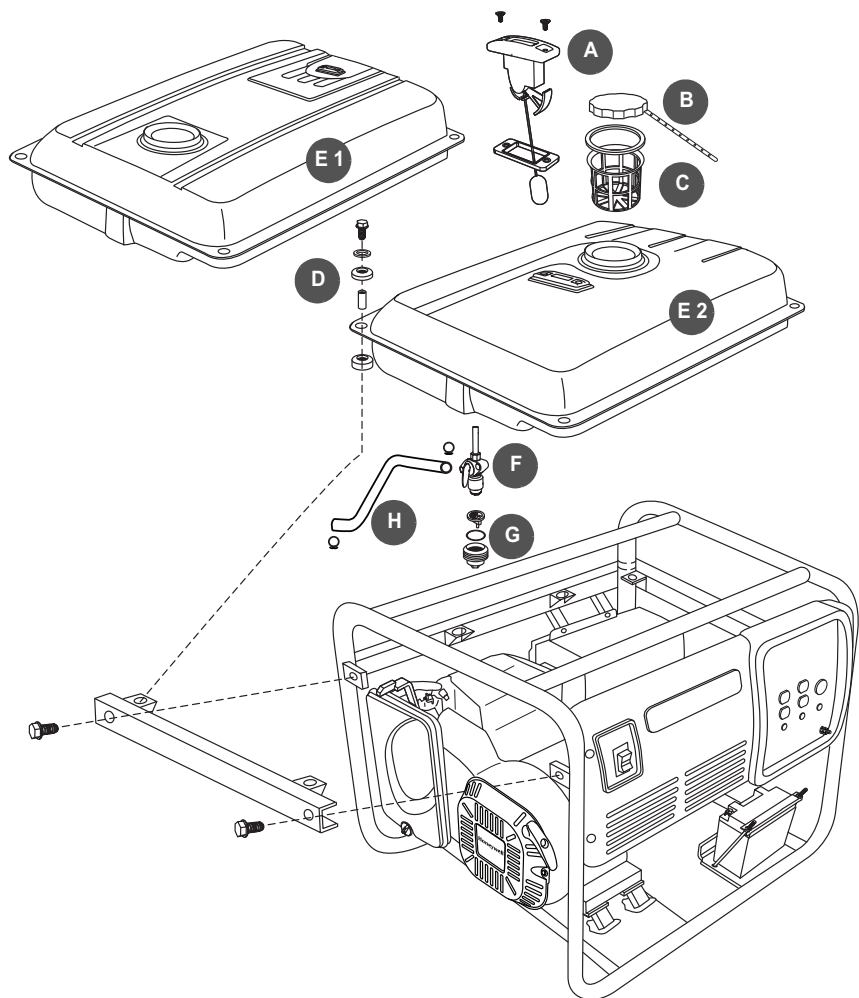
G—FUEL SEDIMENT CUP

See CLEANING FUEL SEDIMENT CUP, page 7-5.

H—FUEL LINE

Check for cracks or damage.

Secure with hose clamps.



HW7500E Model Illustrated

EVAPORATIVE EMISSIONS CONTROL SYSTEM

9.5 EVAPORATIVE EMISSIONS CONTROL SYSTEM

For Model Numbers Ending in "L" only.

A—FUEL TANK

B—CARBON CANISTER

- B1 - HW3000L Model Only
- B2 - All Other Models

C—VAPOR LINE

Secure with hose clamps.

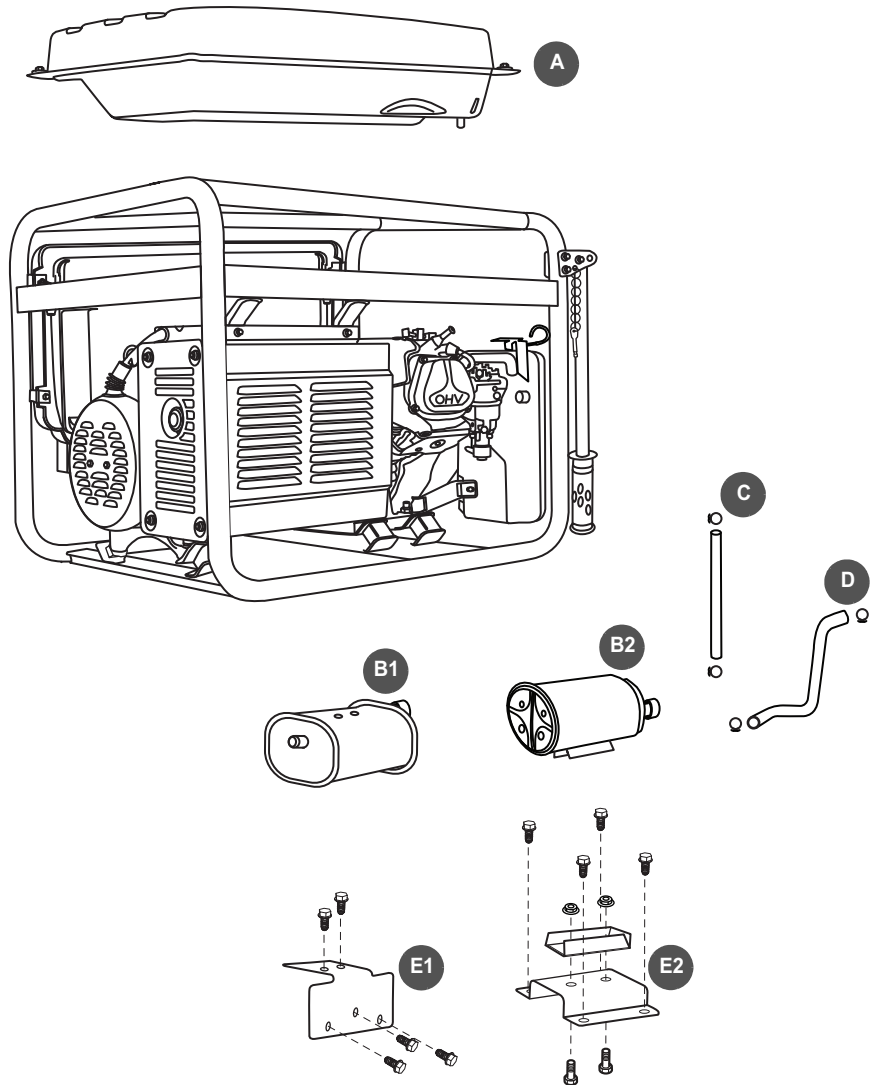
D—CARBON CANISTER TUBE

Secure with hose clamps.

E—CARBON CANISTER BRACKET

2 N•m (1.5 lb. ft.)

- E1 - HW3000L Model Only
- E2 - All Other Models



MUFFLER

9.6 MUFFLER

! WARNING



The muffler becomes very hot during operation and remains hot for a while after stopping the engine.

- NEVER touch hot surfaces and avoid hot gases.
- Let engine cool before storing the generator indoors.

A—MUFFLER GUARD

NOTE: Not present on HW3000 or HW3000L models.

B—MUFFLER COVER

4 N•m (3 lb. ft.)

NOTE: Not present on HW3000 or HW3000L models.

C—SPARK ARRESTOR

Clamp - 1 N•m (1 lb. ft.)

Screen - 1 N•m (1 lb. ft.)

D—MUFFLER

Cutaway view shows the catalyst located inside mufflers on model numbers ending in "L".

(HW3000L, HW4000L, HW5500L, HW5500EL, HW6200L, HW7000EL, HW7500EL)

Muffler rear mounting bracket - 18 N•m (13 lb. ft.)

E—EXHAUST PIPE

18 N•m (13 lb. ft.)

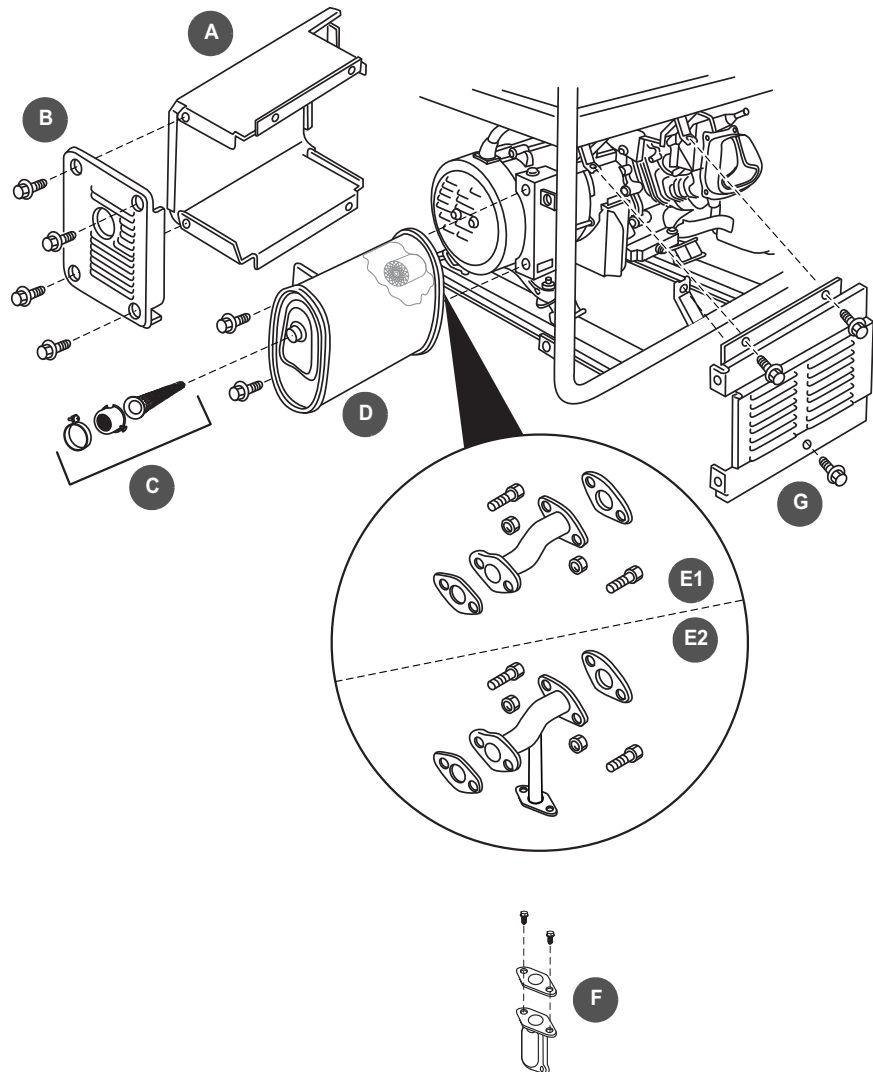
- E1 - Non "L" Models
(HW3000, HW4000, HW5500, HW5500E, HW6200, HW7000E, HW7500E)
- E2 - Model Numbers Ending in "L"
(HW3000L, HW4000L, HW5500L, HW5500EL, HW6200L, HW7000EL, HW7500EL)

F—SECONDARY AIR INTAKE VALVE

For model numbers ending in "L" only
(HW3000L, HW4000L, HW5500L, HW5500EL, HW6200L, HW7000EL, HW7500EL)

G—MUFFLER SIDE GUARD

4 N•m (3 lb. ft.)



9.7 CARBURETOR

⚠ WARNING



Fuel and its vapors are extremely flammable and explosive under certain conditions.



- Refuel generator only outdoors, in a well-ventilated area.
- NEVER enclose the generator in any structure.
- Keep generator at least 6 feet (2 meters) away from buildings, other equipment, and combustible materials during operation.
- NEVER fill fuel tank while the engine is running. Turn generator OFF and allow to cool before filling with fuel.
- NEVER smoke or allow flames or sparks near the generator or where gasoline is stored.
- NEVER overfill the fuel tank (there should be no fuel in the filler neck). After refueling, tighten the fuel cap securely.
- Be careful not to spill fuel when refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, the area must be dry before starting the engine.
- Avoid repeated or prolonged contact with skin or breathing of vapor.

A—FLOAT VALVE

Check for worn valve or weak spring before installation.

B—FLOAT

Check for smooth movement after installation.

C—DRAIN SCREW

Clean with compressed air and check for leaks after installation.

D—SET BOLT

Check for any sign of fuel leakage after installation.

E—FUEL CUTOFF SOLENOID

Check continuity between the double green wires of the solenoid valve. If there no continuity, replace solenoid.

NOTE: Not present on HW3000 or HW3000L models.

F—MAIN JET

Clean with compressed air before installation.

G—MAIN NOZZLE

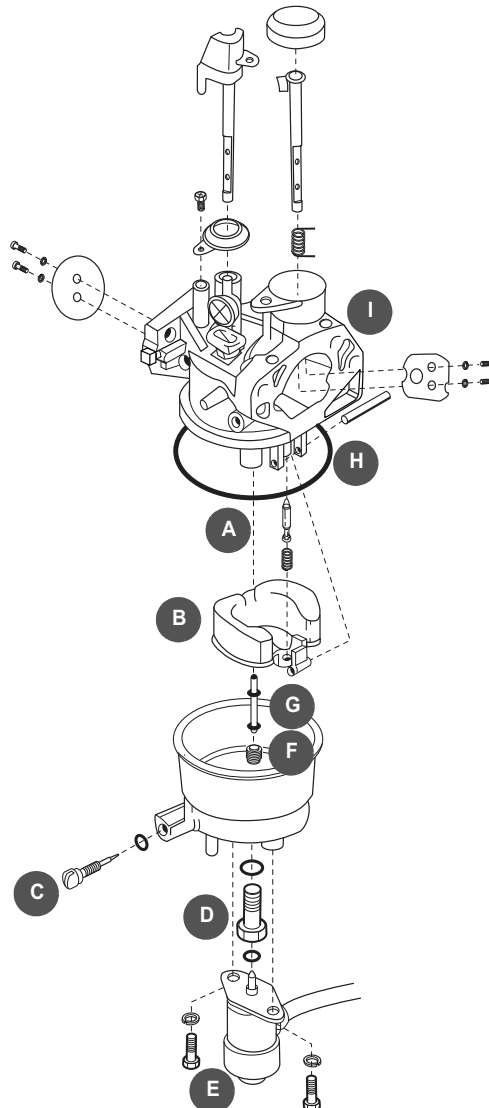
Clean with compressed air before installation.

H—O-RING

Check for correct installation.

I— CARBURETOR BODY

Clean internal passages and orifices with compressed air before installation.



STARTING SYSTEM

9.8 STARTING SYSTEM

A—ELECTRIC STARTER

Attempt to crank engine by switching the engine control switch to the START position.

Starter Solenoid Terminal Nut -
6 N•m (4 lb. ft.)

B—WOODRUFF KEY

After installing the flywheel, check to ensure the woodruff key is still in its slot on the crankshaft.

C—SPARK PLUG LEAD

Clamp securely to the crankcase with the two clamps.

Check for cracked or damaged insulation; replace, if necessary.

D—IGNITION COIL

Pull spark plug lead and connect to spare. Check ignition for spark to ground.

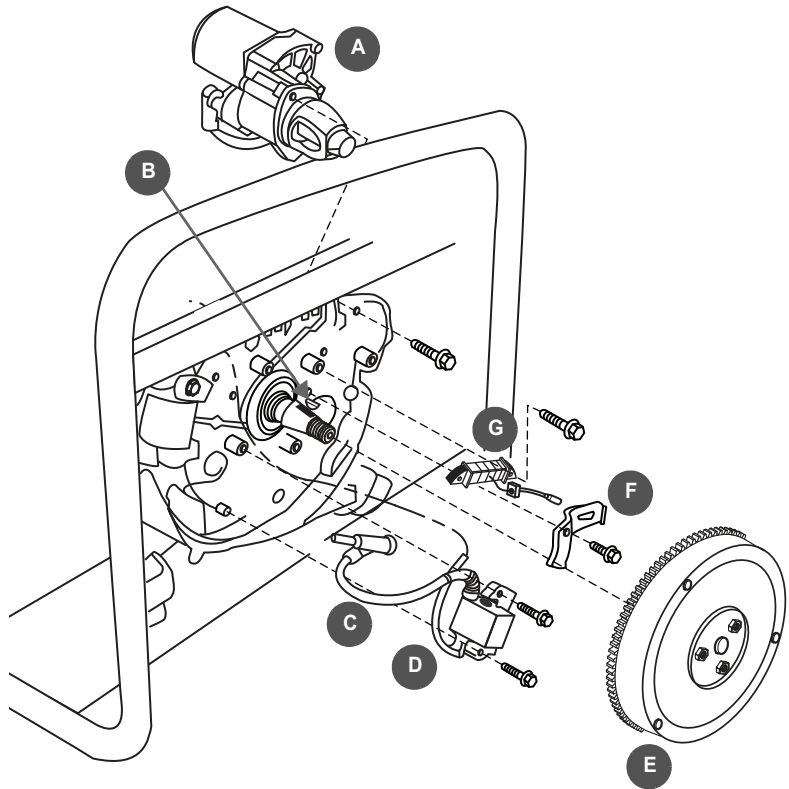
10 N•m (7 lb. ft.)

E—FLYWHEEL

F—CLAMP

G—CHARGING COIL ASSEMBLY

Check for continuity.



9.9 RECOIL STARTER


A—STARTER CASE

B—ROPE AND HANDLE

Install with recoil starter handle position as shown.

C—RETURN SPRING

Connect the outer hook in the groove of the starter reel and inner hook on the starter case tab.

⚠ CAUTION	
	<p>Return spring is under tension. Use extreme caution and wear safety glasses and gloves when disassembling to prevent injury.</p>

D—STARTER REEL

Install on the starter case after installing the return spring.

E—RATCHET SPRING

F—RATCHET

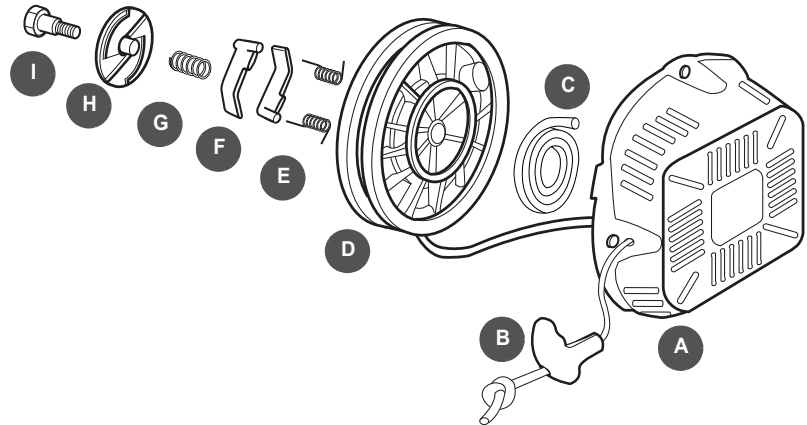
Check for wear or damage.

G—FRICTION SPRING

H—REEL COVER

Align the ratchet with the reel cover notch.

I— REEL COVER BOLT

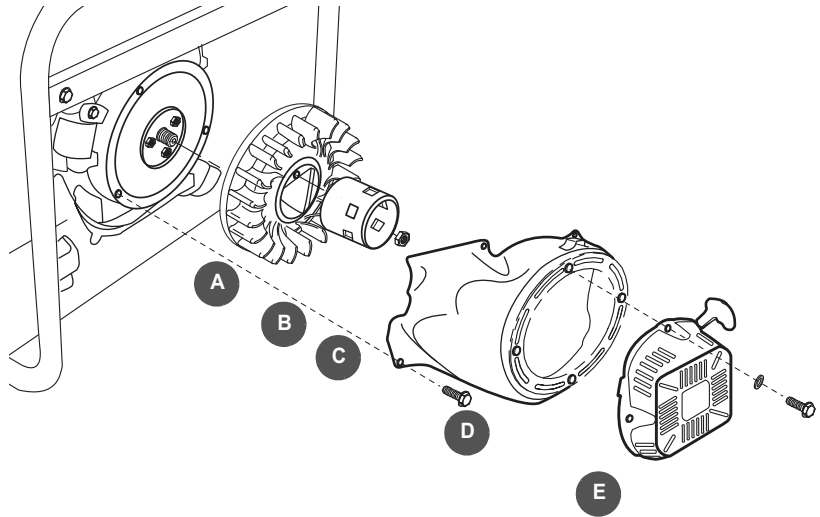
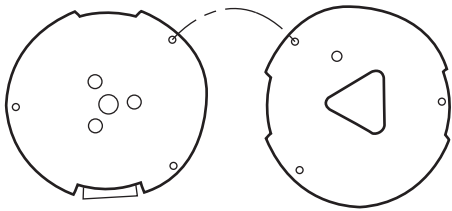


FAN COVER

9.10 FAN COVER

A—COOLING FAN

Install by aligning the three lugs on the rear side of the fan with the small hole in the fly-wheel. When disassembling and assembling, take care not to damage the fan blades.



B—STARTER PULLEY

Install by aligning the hole in the pulley with the lug on the cooling fan.

C—FLANGE NUT

Hold the flywheel by placing a screwdriver into the pulley.

105 N•m (77 lb. ft.)

D—FAN COVER

Remove and install with the recoil starter assembly.

E—RECOIL STARTER ASSEMBLY

Install with the recoil starter handle position as shown.

WHEEL, LEG, & HANDLE ASSEMBLY

9.11 WHEEL, LEG, & HANDLE ASSEMBLY (HW3000/L MODELS)

A—LOCKING HANDLE BRACKET

10 N•m (7 lb. ft.)

B—SPRING LOCKING HANDLE

C—RUBBER HANDLE GRIP

D—AXLE

25 N•m (18 lb. ft.)

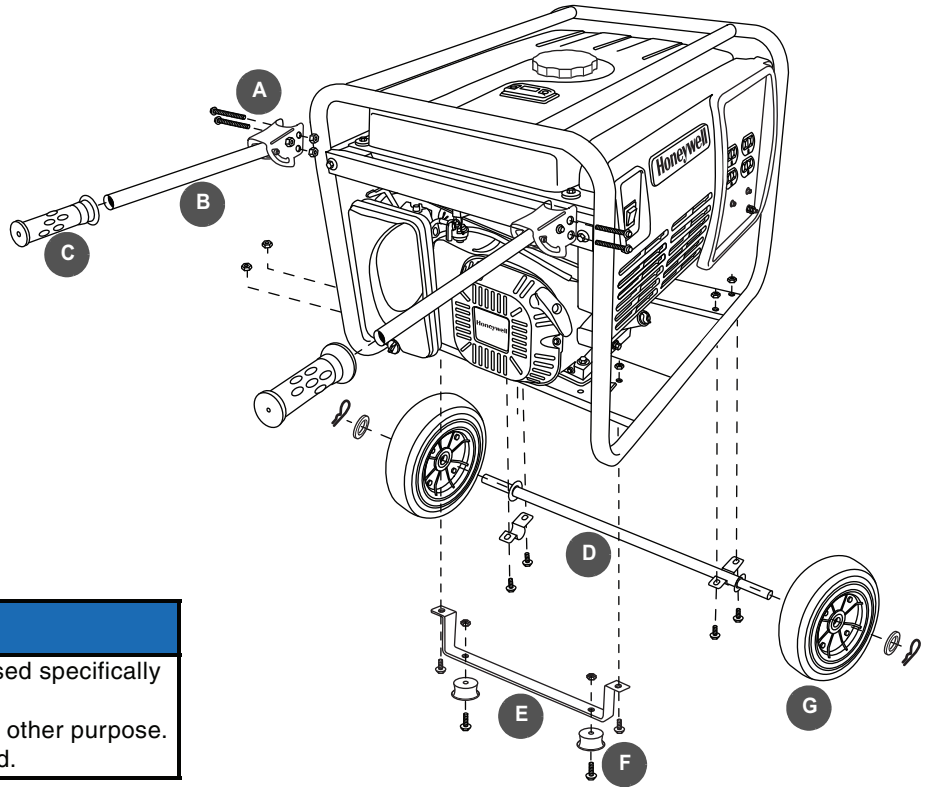
E—SUPPORT LEG

25 N•m (18 lb. ft.)

F—RUBBER STOPPER

25 N•m (18 lb. ft.)

G—WHEEL



NOTICE

- Accessory kit is intended to be used specifically with this generator.
- NEVER use accessory kit for any other purpose.
- NEVER use accessory kit on-road.

WHEEL, LEG, & HANDLE ASSEMBLY

9.12 WHEEL, LEG, & HANDLE ASSEMBLY (ALL MODELS EXCEPT HW3000/L)

**A—WHEEL HANDLE PIVOT
BRACKET**

10 N•m (7 lb. ft.)

B—PIN AND CHAIN

C—HANDLE BAR

D—RUBBER HANDLE GRIP

E—AXLE

25 N•m (18 lb. ft.)

F—SUPPORT LEGS

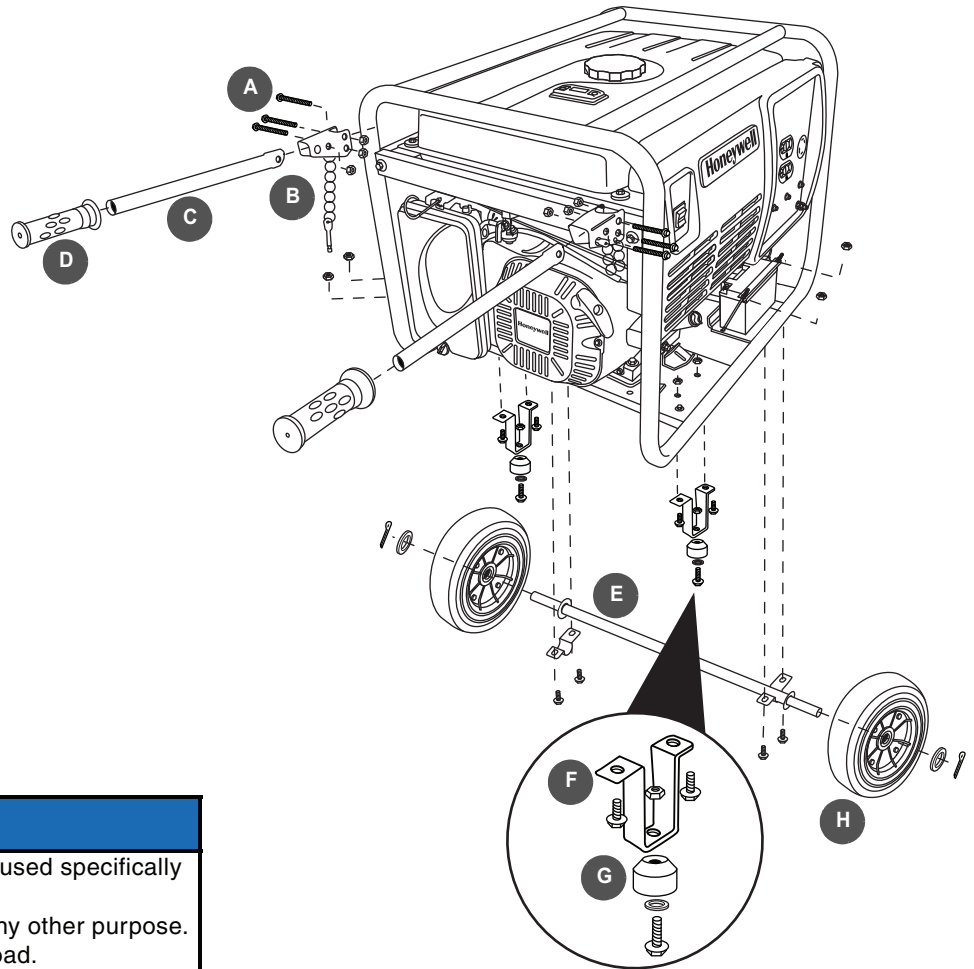
25 N•m (18 lb. ft.)

NOTE: On some models the leg support nuts are welded to the frame.

G—RUBBER STOPPER

25 N•m (18 lb. ft.)

H—WHEEL



NOTICE

- Accessory kit is intended to be used specifically with this generator.
- NEVER use accessory kit for any other purpose.
- NEVER use accessory kit on-road.

HW5500E Model Illustrated

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